

Exhibit C:

Final Proposed Draft of Rule 23

**ARKANSAS POLLUTION CONTROL
AND ECOLOGY COMMISSION**

RULE 23

HAZARDOUS WASTE MANAGEMENT



**Approved by the
Pollution Control and Ecology Commission
August 27, 2020**

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PUBLISHED BY

Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

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INTRODUCTION

The Division of Environmental Quality, in coordination with the Arkansas Pollution Control & Ecology Commission, strives to maintain and administer a hazardous waste management program that is equivalent in force and effect to and no less stringent than the Federal program as established by the federal Resource Conservation and Recovery Act, as amended, including but not limited to the Hazardous and Solid Waste Amendments. Arkansas's rules mirror, to the greatest extent possible, the Federal hazardous waste management regulations published at 40 CFR Parts 260-266, 268, 270, 273, and 279.

The Federal RCRA program is delegated to the State government, however, once the State demonstrates that it has implemented a hazardous waste management program that is equivalent to and no less stringent than the minimum standards published in 40 CFR Parts 260-279. This process is known as authorization. Once EPA has authorized a State's hazardous waste management program, that State's program is implemented, by the responsible State agency in lieu of EPA's program.

Arkansas's hazardous waste management program, in its broadest statement of purpose, is designed to protect the public health and safety and the environment from the effects of improper, inadequate, or unsound management of hazardous wastes. It accomplishes this to the fullest extent possible by establishing a program of strict rule over the generation, storage, transportation, treatment, disposal, and other forms of management of these wastes. The program additionally affords the people of the State a voice in the management of hazardous wastes within Arkansas. The lead agency for the hazardous waste management program in Arkansas is the Division of Environmental Quality (DEQ).

Arkansas, and the Division of Environmental Quality, has received final authorization for all components of and revisions to the federal RCRA program promulgated on or before June 30, 1992, to include authorization for HSWA corrective action. Federal rule changes and revisions promulgated between July 1, 1992, and February 11, 1999, have been adopted as well, and are being implemented and enforced as components of the State's program.

The Arkansas General Assembly has approved the necessary legislation to administer a State program of scope and coverage equivalent to and no less stringent than that administered by EPA. Two State Acts, the Arkansas Hazardous Waste Management Act (Act 406 of 1979, as amended, codified at Arkansas Code Annotated (A.C.A.) Section 8-7-201 et. seq.) and the Arkansas Resource Reclamation Act (Act 1098 of 1979, as amended, codified at A.C.A. Section 8-7-301 et. seq.) set the legal framework for the State's hazardous waste management program. The Arkansas Remedial Action Trust Fund Act (Act 479 of 1985, as amended, codified at A.C.A. section 8-7-501 et. seq.) provides additional authority for corrective action and clean-up of hazardous waste releases at RCRA sites and facilities as well as abandoned hazardous substance sites. In addition to and based upon this framework, DEQ and the Arkansas Pollution Control & Ecology Commission publishes and updates this document, APC&EC Rule No. 23 (Hazardous Waste Management), which serves as the basic rule for administration of the state's hazardous waste management program.

Just as the authorized Arkansas hazardous waste management program operates in lieu of the Federal RCRA program in Arkansas, this rule stands in place of the Federal rulebook for hazardous wastes under the State hazardous waste management program. Rule No. 23 is thus the primary reference for hazardous waste management activities and practices in Arkansas.

Federal regulations contained in 40 CFR Parts 260-266, 268, 270, 273, and 279 have been adopted verbatim in this rule at Sections 260 through 279, and have been modified only to represent the proper points of contact under the authorized State program and to reflect additional or specific State requirements. For ease of cross-reference to the equivalent Federal regulations for companies operating in other states, all paragraph numberings within the State rule sections are the same as those

used in the equivalent Federal part. One need only substitute the Federal part number for the State section number. For example, 40 CFR Part 261, for identification and listings of hazardous wastes, is contained in Section 261 of this Rule, and someone seeking the State equivalent of 40 CFR 261.3(a)(2)(i) need only refer to Rule 23 Section 261.3(a)(2)(i).

For ease of reference, the Federal CFR Part numbers and their equivalent State Sections in this Rule are:

| Topic | 40 CFREquivalent Rule No. 23 Part No. Section |
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|--|--------------------------|
| Hazardous Waste Management System: General | 40 CFR 260 Rule 23 § 260 |
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| Identification and Listing of Hazardous Waste | 40 CFR 261 Rule 23 § 261 |
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| Standards for Generators | 40 CFR 262 Rule 23 § 262 |
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| Standards for Transporters | 40 CFR 263 Rule 23 § 263 |
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| Standards for TSD Facilities | 40 CFR 264 Rule 23 § 264 |
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| Interim Status Standards for TSD Facilities | 40 CFR 265 Rule 23 § 265 |
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| Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities | 40 CFR 266 Rule 23 § 266 |
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| Standardized Permits | 40 CFR 267 Rule 23 § 267 |
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| Land Disposal Restrictions | 40 CFR 268 Rule 23 § 268 |
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| EPA and State Permits | 40 CFR 270 Rule 23 § 270 |
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| Universal Wastes | 40 CFR 273 Rule 23 § 273 |
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| Used Oil Management | 40 CFR 279 Rule 23 § 279 |
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Specific State Requirements for the Hazardous Waste Management Program:

Arkansas has enacted several requirements under its hazardous waste management program which are either in addition to, more stringent than, or broader in scope than the minimum standards of Federal RCRA program set forth in 40 CFR Parts 260-279. These additional State requirements are set forth in this Rule at Sections 1-6 and Sections 18-30, and appear in Sections 260-279 in *italicized type* to distinguish them from the adopted Federal language.

For quick reference, Arkansas's additional or more stringent hazardous waste laws and/or rules (compared to the equivalent federal program) are listed and referenced below. Also included in this listing are the areas considered to be "broader in scope" than their Federal counterparts.

1. Definitions of Terms, References, and Test Methods: State requirements are equivalent to those of the federal program, except for the following:

- In the definition of "*Existing hazardous waste management (HWM) facility*", the deadline for the operation or construction of a facility to be included in this definition is 20 months earlier than the date set in the Federal regulations. Thus, more facilities are subject to the more stringent requirements for new facilities than is the case under the Federal requirements.

- Arkansas includes definitions for the following terms not found in 40 CFR 260.10: “commingling”, “permit”, “permitted site”, “shipper”, “site”, “transport”, “treatment facility” and “ultimate controlling person”. With the exception of “permit” and “site”, the State’s definitions serve to clarify the use of these terms and do not affect stringency or the scope of the State’s program. “Permit” and “site” are terms defined in 40 CFR 270.2. However, Arkansas has revised its definition of “permit” to include the State’s transporter permit and its definition of “site” has been revised to be consistent with the State’s definition of “existing hazardous waste management facility”.

2. Identification and Listing of Hazardous Wastes: State requirements are equivalent to those of the federal program, except that:

Arkansas does not provide for a State delisting program. To delist a waste in Arkansas, an applicant must first complete the process to obtain a final delisting decision from the EPA Administrator. Once a final federal delisting decision has been published in the Federal Register, it is not effective in Arkansas until the Arkansas Pollution Control and Ecology Commission completes rulemaking to approve and incorporate the federal decision in Rule No. 23.

3. Standards for Generators: State requirements are equivalent to those of the federal program, except for the following areas:

- Rule No. 23 § 6(n), (o), (p), and (q) establishes an annual monitoring and inspection fee for fully-regulated and small quantity generators; § 25 establishes an annual fee on hazardous waste generation.
- Rule. 23 §§ 262.19(a) require that generators give their wastes only to permitted transporters, because Arkansas requires that transporters be permitted. This is a broader in scope provision.
- Arkansas does not have an analog to 40 CFR 262.20(e) which allows generators under certain specified conditions (e.g., tolling arrangements) not to be subject to the manifest requirements. This difference makes the State provisions more stringent than their Federal counterparts.
- Rule No. 23 § 262.41 requires that generators submit annual rather than biennial reports. This is a more stringent requirement.

Under Rule No. 262.41(e), Arkansas is more stringent in that a generator must report accumulated wastes in addition to stored wastes. Under the Federal program, only stored. • Arkansas does not have an analog to 40 CFR 262.44 which subjects generators of between 100 and 1000 kg per month to reduced recordkeeping requirements. This difference makes the State program more stringent than the Federal program.

- Rule No. 23 § 262.50(c) requires that a copy of all export notifications and manifests that are submitted to EPA be also submitted to the Division. This is a more stringent requirement.
- Rule No. 23 § 262.19(a) contains more stringent management requirements for very small quantity, small quantity, and large quantity generators.

4. Standards for Transporters: State requirements are equivalent to those of the federal program, except for the following:

- Rule No. 23 § 260.10, definition of “commingling” prohibits transporters from commingling wastes in any manner that constitutes treatment.
- Rule No. 23 §§ 263.10(d) and 263.13 require that any person transporting hazardous waste in, from or through Arkansas must have a permit. § 263.13 outlines the specific requirements for this permit. This difference makes the State’s program broader in scope than the Federal program. A.C.A § 8-7-209(a)(6) provides the authority to require such permits.
- Rule No. 23 § 263.11(c) requires that each transfer facility obtain an EPA identification number. This difference makes the State more stringent than the Federal program.

- In addition to the notification requirements found at 40 CFR 263.30(c)(1)&(2), Arkansas requires immediate notice to the Arkansas State Police and the principal officer or designated contact for the transporter.

- Rule No. 23 § 263.30(c)(4) requires that copies of reports required by the U.S. Department of Transportation and the National Response Center be sent simultaneously to DEQ.

5. Standards for Facilities: State requirements are equivalent to those of the federal program, except for the following:

- Arkansas has several specific authorities which relate to siting of hazardous waste management facilities. A.C.A. § 8-7-223 specifically prohibits a landfill disposal facility from being located within one-half mile of any occupied dwelling unless the applicant can demonstrate and the Division establishes a finding that a lesser distance will provide an adequate margin of safety under normal operating conditions. Likewise, A.C.A. § 8-6-1504 (in the Arkansas Environmental Equity Act (Act 1263 of 1993)) establishes a rebuttable presumption against siting any “high impact solid waste management facility” within 12 miles’ radius of any other such facility. The definition of a high impact solid waste management facility includes all commercial hazardous waste incinerators and commercial hazardous waste treatment, storage, or disposal facilities.

- Rule No. 23 § 6(a)-(n), (t), (u), (w), (x), and (z) establish a fee system for hazardous waste permitting and related activities; § 25 establishes an annual fee for treatment, storage, or disposal of out-of-state waste.

- Rule No. 23 § 264.13(a)(1) provides that the analysis must at a minimum include a detailed waste characterization by a commercial facility for at least 10% of the waste handled for each large quantity generator shipping to the facility. The Federal requirements at 40 CFR 264.13(a) do not contain this specification; however, this additional State requirement is consistent with the Federal requirements.

- Rule No. 23 § 264.16(f) has no Federal counterpart and requires that at least one person certified by the State be on duty at all times before a facility will be permitted to operate. Certified persons must meet certain qualifications including physical capability; a B.S. Degree or related experience in engineering, physical science, health sciences or related disciplines; familiarity with principles of industrial operation; and be a U.S. citizen. Facilities must also maintain records of employees, provide personnel training and review and require annual health physicals. These provisions make the Arkansas program more stringent than the Federal program.

- Rule No. 23 § 264.18(d)-(i) have no Federal counterpart and state that facilities will not be permitted in an active fault zone, regulatory floodway, 100-year floodplain, recharge zone or wetland area unless it can be proven that there is no risk to public health or the environment. Facilities located within an area containing geologic or pedologic factors will not be permitted nor will any facility located within one half mile of an occupied dwelling, school or hospital. These provisions are more stringent than the Federal location requirements at 40 CFR 264.18.

- Rule No. 23 §§ 264.19(a), 264.115 and 264.120 restrict the engineers who can develop and implement a CQA to those registered in Arkansas. The Federal regulations allow registration in any State. This difference makes the State more stringent.

- Rule No. 23 § 264.20 has no Federal counterpart and contains performance standards that are specific to Arkansas. These standards make the State more stringent.

- Rule No. 23 § 264.71(e) has no Federal counterpart and requires notification to the State of unpermitted transporters arriving at a TSD facility, because all persons who transport hazardous waste in, from or through Arkansas must have a permit. This provision makes the State’s program broader in scope.

- Rule No. 23 § 264.75 requires that facilities submit annual rather than biennial reports. This difference makes the State program more stringent than the Federal program.
- Rule No. 23 § 264.75(i) requires annual submission of groundwater monitoring data. Under the Federal requirements, these data must only be submitted by interim status facilities. This difference makes the Arkansas program more stringent than the Federal program.
- Rule No. 23 §§ 264.143(e), 264.145(e), and 264.147(a)(1) require that when insurance is used as a mechanism for financial assurance for closure, post closure, corrective actions, or liability, a copy of the insurance policy must be provided to the Director, and the insurer must be licensed to transact the business of insurance as recognized by the Arkansas Insurance Department, and be favorably rated by A.M. Best, Moody's, or Standards & Poor's. Captive insurance may not be used to demonstrate financial assurances under the provisions of this Regulation.
- Rule No. 23 §§ 264.143(f), 264.145(f), and 264.147(f) require the submittal of a copy of the owner's or operator's consolidated financial statements for the latest completed fiscal year, with all notes and attachments, when the corporate financial test or corporate guarantee is used as a financial assurance instrument for closure, post-closure, corrective action, or liability.
- Rule No. 23 § 264.175(b)(2) has no Federal counterpart and requires an impermeable coating on all surfaces of the secondary containment structure for container storage areas. This difference makes Arkansas' program more stringent than the Federal program.
- Rule No. 23 §§ 264.191 through 264.193 restrict those engineers who can inspect or certify a tank system's integrity to those registered in Arkansas, and independent from the facility owner/operator.. The Federal requirements allow registration in any State. Arkansas is therefore more stringent.
- Rule No. 23 § 264.571(b) requires that for immediate protection of the environment, all existing drip pads must have an impermeable coating or cover in place not later than September 30, 1995. This requirement is more stringent than its Federal counterpart.
- Rule No. 23 §§ 264.571(a)-(c) and 264.573(m)(3) restrict engineers who can certify a drip pad's integrity or completed repairs to those registered in Arkansas and independent from the facility owner/operator. The Federal counterparts allow engineers to certify that are registered in any state. This difference makes the State's program more stringent.
- Rule No. 23 §§ 264.573(a)(4)(i) states that penetrating sealants are not adequate to meet the coating or cover requirements for drip pads. The Federal requirements do not have this restriction; therefore, the State is more stringent.
- Rule No. 23 § 264.601(d)&(e) have no Federal counterpart and prohibit open burning or detonation of hazardous wastes on unprotected ground. Open burning or open detonation may only be conducted in or on an elevated containment device which will prevent leaching or migration of waste. Prior to open burning or detonation, a RCRA permit must be obtained and it must be demonstrated that no other feasible alternative is available. These requirements are consistent with Federal requirements at 40 CFR Part 264, Subpart X. However, the required demonstration that there are no other feasible alternatives is a more stringent provision.
- Rule No. 23 § 264.1101(c)(2)&(c)(3)(iii) restrict the engineers who can certify a containment design or completed repairs to those registered in Arkansas and independent from the facility owner/operator.
- State corrective action authority covers *hazardous substances* (including petroleum and petroleum-based products), rather than only hazardous wastes and hazardous constituents as prescribed by Federal law. Thus, State authorities are broader in scope in this regard than the Federal program's. (See A.C.A. § 8-7-502, § 8-7-503(12), § 8-7-508(a)(1).)
- Because Arkansas law does not distinguish between corrective action on-site and off-site, demonstration of financial responsibility is required for corrective action wherever it is needed.

Interim Status Facilities: Arkansas allows existing facilities to continue operation only if the facility was in existence on **March 14, 1979** and submitted an initial State application form to the Division by **September 14, 1979**. A.C.A. § 8-7-216 requires that an initial State application for interim status be submitted to the Division by September 14, 1979. Thus, Arkansas has a more stringent form of interim status. Otherwise, State requirements are equivalent to those of the federal program, except for the following:

- Rule No. 23 § 265.13(a)(1) provides that the analysis must at a minimum include a detailed waste characterization by a commercial facility for at least 10 % of the waste handled for each large quantity generator shipping to the facility. The Federal requirements at 40 CFR 265.13(a) do not contain this specification; however, this requirement is consistent with the Federal requirements.
- Rule No. 23 § 265.16(f) has no Federal counterpart and requires that at least one person certified by the State be on duty at all times before a facility will be permitted to operate. Certified persons must meet certain qualifications including physical capability, a BS Degree or related experience in engineering, physical science, health sciences, or related disciplines, familiarity with principles of industrial operation and be a U.S. citizen. Facilities must also maintain records of employees, provide personnel training and review and require annual health physicals. These provisions make the State's program more stringent than the Federal program.
- Rule No. 23 §§ 265.19(a), 265.115 and 265.120 restrict the engineers who can develop and implement a CQA to those registered in Arkansas and independent from the facility owner/operator. This difference makes the State more stringent.
- Rule No. 23 § 265.71(e) has no Federal counterpart and requires notification to the State of unpermitted transporters arriving at a TSD facility, because all persons who transport hazardous waste in, from or through Arkansas must have a permit. This provision makes the State's program broader in scope.
- Rule No. 23 § 265.75 requires that facilities submit annual rather than biennial reports. This difference makes the State program more stringent than the Federal program.
- Rule No. 23 §§ 265.143(h), 265.143(h) and 265.147(e) require that the engineer who certified closure be registered in Arkansas and independent from the facility owner/operator. This difference makes the State more stringent.
- Rule No. 23 §§ 265.143(e), 265.145(e), and 265.147(a)(1) require that when insurance is used as a mechanism for financial assurance for closure, post closure, corrective actions, or liability, a copy of the insurance policy must be provided to the Director, and the insurer must be licensed to transact the business of insurance as recognized by the Arkansas Insurance Department, and be favorably rated by A.M. Best, Moody's, or Standards & Poor's. Captive insurance may not be used to demonstrate financial assurances under the provisions of this Regulation.
- Rule No. 23 §§ 265.143(f), 265.145(f), and 265.147(f) require the submittal of a copy of the owner's or operator's consolidated financial statements for the latest completed fiscal year, with all notes and attachments, when the corporate financial test or corporate guarantee is used as a financial assurance instrument for closure, post-closure, corrective action, or liability.
- Rule No. 23 §§ 265.191 through 265.193, 265.196(f) and 265.280(e) restrict those engineers who can inspect or certify a tank system's integrity to those registered in Arkansas and independent from the facility owner/operator. The Federal requirements allow registration in any State. Arkansas is therefore more stringent.
- Rule No. 23 §§ 265.441(a)&(c), 265.443(g)&(m)(3) and 265.444(a) restrict engineers who can certify a drip pad's integrity or completed repairs to those registered in Arkansas and independent from the facility owner/operator. This difference makes the State's program more stringent.

- Rule No. 23 § 265.441(b) requires that for immediate protection of the environment, all existing drip pads must have a impermeable coating or cover in place not later than September 30, 1995. This requirement is more stringent than its Federal counterpart.

- Rule No. 23 § 265.443(a)(4)(i) states that penetrating sealants are not adequate to meet the coating or cover requirements for drip pads. The Federal requirements do not have this restriction; therefore, the State is more stringent.

- Rule No. 23 § 265.1101(c)(2)&(c)(3)(iii) restrict the engineers who can certify a containment design or completed repairs to those registered in Arkansas and independent from the facility owner/operator. Under the Federal requirements the engineer can be registered in any state.

6. Land Disposal Restrictions: All State requirements are equivalent to those of the Federal program.

7. Requirements for Permits: State requirements are equivalent to those of the Federal program, except for the following:

- Fees are required by A.C.A. § 8-7-226 and Reg. No 23, Section 6 for permitting. This requirement is broader in scope because there is no direct Federal analog addressing permit fees.

- Arkansas distinguishes between commercial and non-commercial waste activities in setting its permit fee schedule.

- Rule No. 23 § 270.7 has no direct analog in the Federal requirements and includes additional requirement relative to permit application. Some of the requirements are a restatement of the Federal requirements, but others are additional demonstrations which must be made or information which must be provided. Included are such things as evidence that the contingency plan has been developed in consultation with the fire department, the Mayor/City Manager/County Judge in the municipality/county in which the facility is to be located; provision of contracts, agreements, and such other documentation to demonstrate that the waste which will be disposed of is waste which resulted from the treatment of waste to the full extent of known technology and economics or is waste for which there is no technically and economically feasible means of treatment available; demonstration of full fee ownership of lands and all mineral rights; location and places where public notice must be made; proof of public notice of application submission prior to any permit decision; written notice to all landholders and tenants of property contiguous to the proposed or existing facility; evidence of good faith effort to contact all contiguous landholders; and permittee must submit as part of the annual permit review process a plat of any landfill disposal area in which waste has been disposed. These requirements make the state more stringent.

- Rule No.23 § 270.10(e)(1) requires that any facility in existence on March 14, 1979 submit a permit application on or before September 4, 1979. The State is more stringent because if the application was not submitted to the Division as required under the State Act, the facility is not eligible for interim status.

- Under Rule No. 23 § 270.10(e)(8), Arkansas can take immediate enforcement action relative to an application deficiency; whereas the Federal requirements allow 30 days to fix the application. This difference makes the state more stringent.

- Rule No. 23 § 270.12 contains state- and program-specific requirements for the submittal and handling of confidential business information in conjunction with permit applications and processing.

- Rule No. 23 § 270.13(o), which does not have a Federal analog, requires disclosure information to be submitted as part of the permit application. A.C.A. § 8-1-106(b) provides the State with the authority to require this information. This requirement makes Arkansas more stringent than the Federal program.

- Rule No. 23 §§ 270.14(a), 270.16(a), 270.26(c)(15) and 270.30(l)(2)(i) are more stringent because they restrict those registered professional engineers who can certify certain technical data those who are registered in Arkansas and independent from the facility owner/operator.

- In Rule No. 23 § 270.19(d), Arkansas uses “may” rather than “shall” giving the Director the discretion for non-approval. The Administrator does not have this discretion making the State more stringent.

- Rule No. 23 § 270.30(l)(9) requires an annual rather than a biennial report.

- Rule No. 23 § 270.34, which does not have a Federal analog, requires that a survey be conducted by any appropriate health agency to establish baseline health data. In addition, the state requires that if emissions from any hazardous waste management facility are related to disease etiology, the Division shall conduct pertinent epidemiologic investigation. This requirement makes the state more stringent.

- Rule 23 § 270.40(b) requires that upon the transfer of a RCRA permit to a new owner or operator, the new operator must establish compliant financial assurance no later than the date of the change of ownership or operational control. This is a more stringent requirement.

- At Rule No. 23 § 270.70(b), the analog to 40 CFR 270.70(b), Arkansas does not allow the owner/operator at least 30 days to explain or correct a deficiency. This difference makes the state more stringent.

8. Used Oil Management: State requirements are equivalent to those of the Federal program, except for the following:

- Arkansas requires that used oil handlers use the State’s Notification of Regulated Waste Activity form to obtain an EPA identification number; requests via an ordinary letter are not accepted.

- Used oil transporters, processors, re-refiners, burners, and marketers who have previously obtained an EPA identification number must renotify in order to register their used oil activities with the Division.

- At Rule No. 23 § 279.82, used oil used as a dust suppressant may not exhibit any characteristic of a hazardous waste, and such use must prevent the oil or any component of the oil from entering any waters of the State.

9. Universal Wastes: State requirements are equivalent to those of the Federal program, except for the following:

- Rule 23 § 273.5(b)(3) specifically excludes broken and crushed lamps as well as the debris from broken or crushed lamps from being managed under the universal waste program.

- Rule 23 § 273.6 establishes a universal waste classification for “consumer electronic items,” a broad category encompassing CRTs and other electronic wastes.

10. Enforcement: Arkansas has four different types of criminal penalties for violation of the hazardous waste laws or regulations. The burden of proof for these penalties is not greater than under the Federal law. These penalties are at least as stringent as, and in most cases more stringent than, those required for authorization.

- Under the first (A.C.A. § 8-7-204(a)(1), criminal penalties can be assessed for violation of any provision of the Hazardous Waste Management Act or a violation of any rule, regulation, or order of the Commission or the Division. This is considered a misdemeanor; if a person is convicted, that person is subject to imprisonment for not more than 1 year or a fine of not more than \$25,000 or subject to both fine and imprisonment. Additionally, for the purpose of the fines only, each day or part of a day during which the violation is continued or repeated constitutes a separate offense. The second type of criminal penalty (A.C.A. § 8-7-204(a)(2)) results if a person violates the provisions of the Hazardous Waste Management Act or violates any rule, regulation, or order of the Commission or the Division and then leaves the State or the jurisdiction of the State. In this case, the person is guilty of a felony. If convicted, that person is subject to imprisonment for not more than 5 years or a fine of not more than \$50,000 or both. As with the first type of criminal penalty, each day or part of any during which the violation is continued or repeated constitutes a separate offense.

- The third type of criminal penalty (A.C.A. § 8-7-204(a)(3)) can be assessed when a person is convicted of treating, storing, transporting, or disposing of any hazardous wastes and purposely, knowingly or recklessly causing the release of hazardous wastes into the environment in a manner not otherwise permitted by law, or creates a substantial likelihood of endangering human health, animal or plant life, or property. The person is guilty of a felony and subject to imprisonment for not more than 10 years or to a fine of not more than \$100,000 or both. Each day or part of day during which the violation is continued is considered a separate offense.

- The fourth type of criminal penalty (A.C.A. § 8-7-204(4)) differs from the third type in that the violation must also include placing another person in imminent danger of death or serious bodily injury. This is also a felony and subject to criminal penalties of not more than 20 years imprisonment or a fine of not more than \$250,000 or both. Each day or part of day during which the violation continues is considered a separate offense.

- Finally, under A.C.A. § 8-7-204(a)(5), a person convicted and subject to any of the above criminal penalties may also be subject to additional fines if that person derived pecuniary gain from the commission of the offense. The fine may not exceed twice the amount of the pecuniary gain.

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**EFFECTIVE DATES OF FEDERAL RCRA RULES AND CHANGES
INCORPORATED IN RULE No. 23**

| Date Federal Rule Published Authorization in Federal Register | Date Adopted by Effective Date PC&E Commission Granted | | Federal of State Rule |
|--|---|-----------------------------------|----------------------------------|
| 5-19-80 | 8-15-80 | 11-19-80 | 1-25-85 |
| 5-20-80 to 2-14-81 | 8-21-81 | Effective date of federal rule | 8-23-85 |
| 2-15-81 to 1-1-82 | 5-6-82 | 5-6-82 | 8-23-85 |
| 1-2-82 to 7-26-82 | 11-19-82 | Effective date of federal rule | 8-23-85 |
| 7-27-82 to 3-1-83 | 5-27-83 | 5-27-83 | 8-23-85 |
| 3-2-83 to 7-1-83 | 9-23-83 | Effective date of federal rule | 8-23-85 |
| 7-2-83 to 5-18-84 | 7-6-84 | 7-6-84 | 8-23-85 ¹ |
| 5-19-84 to 1-14-85 | 5-24-85 | 5-24-85 | 5-29-90 ¹ |
| 1-15-85 to 8-31-85 | 11-22-85 | 12-22-85 | 5-29-90 ¹ |
| 9-1-85 to 7-17-86 | 9-26-86 | 7-9-86 | 5-29-90 ¹ |
| 7-18-86 to 6-30-87 | 9-25-87 | 10-22-87 | 11-18-91 |
| (HSWA Clusters I, II) | | | |
| 7-1-87 to 6-30-88 | 9-23-88 | 10-25-88 | 11-18-91 |
| (HSWA II, Non-HSWA IV) | | | |
| 7-1-88 to 6-30-89 | 11-17-89 | 12-21-89 | 12-4-92 |
| (Non-HSWA Cluster V) | | | |
| 7-1-89 to 8-24-90 | 10-24-90 | 12-17-90 | 12-4-92 |
| (Non-HSWA Cluster VI) | | | |
| 8-25-90 to 6-30-91 | 12-6-91 | 1-27-92 | 12-4-92 |
| (RCRA Cluster I) | | | |
| Kawneer delisting | 6-30-92 | 8-30-92 | N/A |
| 7-1-91 to 6-30-92 (RCRA Cluster II) | 8-27-93 | 9-21-93 | 12-21-94 |
| 7-1-92 to 6-30-93 (RCRA Cluster III) | 4-22-94 | 6-6-94 | 6-24-02 |
| 7-1-93 to 6-30-94 (RCRA Cluster IV) | 1-27-95 | 3-17-95 | 6-24-02 |
| 7-1-94 to 1-3-95 (RCRA Cluster V) | 7-28-95 | 9-2-95 | 6-24-02 |
| 1-3-95 to 6-30-95 (RCRA Cluster V) | 12-1-95 | 1-21-96 | 6-24-02 |
| 7-1-95 to 1-14-97 | 7-25-97 | 8-22-97 | 6-24-02 |
| (RCRA Cluster VI, VII) | | | |

| | | | |
|--|----------|---------|----------|
| 1-15-97 to 2-11-99 (RCRA Clusters VII, VIII) | 7-23-99 | 9-4-99 | 6-24-02 |
| 2-12-99 to 7-6-99 (RCRA Cluster IX) | 2-25-00 | 5-20-00 | 6-24-02 |
| 7-7-99 to 8-9-01 (RCRA Cluster X, XI) | 12-7-01 | 1-24-02 | 10-15-07 |
| 8-10-01 to 12-31-02 (RCRA Cluster XII) (RCRA Cluster XII) | 10-24-03 | 12-6-03 | 10-15-07 |
| 1-1-03 to 9-28-04 (RCRA Cluster XIII) | 1-28-05 | 3-21-05 | 10-15-07 |
| 9-28-04 to 7-1-05 (RCRA Cluster XIV) | 12-9/05 | 3-23-06 | 10-15-07 |
| 7-1-05 to 12-31-07 (RCRA Clusters XV, XVI) | | 4-25-08 | 5-26-08 |
| 1-1-08 to 6-30-09 (RCRA Cluster XVII, XIX) | | 4-23-10 | 6-13-10 |
| 7-1-09 to 8-31-10 (RCRA Cluster XX) | 8-26-11 | 9-26-11 | 12-30-14 |
| 7-1-10 to 12-31-11 (RCRA Cluster XXI) | 6-22-12 | 8-12-12 | 12-30-14 |
| 1-3-14 to 6-26-14 (RCRA Cluster XXII-XXIII) | 9-25-15 | 10-8-15 | 10-11-16 |

HSWA provisions in this date range were not federally authorized until 11-18-91

CHAPTER 1

TITLE AND PURPOSE

The following rules of the Arkansas Pollution Control and Ecology Commission, adopted pursuant to the provisions of the Arkansas Hazardous Waste Management Act of 1979 (Act 406 of 1979, as amended, Arkansas Code Annotated (A.C.A.) §§ 8-7-201 *et seq.*), and the Arkansas Resource Reclamation Act of 1979 (Act 1098 of 1979, as amended, Arkansas Code Annotated (A.C.A.) §§ 8-7-301 *et seq.*), shall be known as APC&EC Rule No. 23, (Hazardous Waste Management).

It is the purpose of this Rule and it is hereby declared to be the policy of this Commission:

- to protect the public health and safety, the health of living organisms, and the environment from the effects of improper, inadequate, or unsound management of hazardous wastes;
- to establish a program of regulation over the generation, storage, transportation, treatment, and disposal of hazardous waste;
- to assure the safe and adequate management of hazardous wastes within this state;
- to qualify to adopt, administer, and enforce a hazardous waste program pursuant to the Federal Resource Conservation and Recovery Act, as amended, (P.L. 94-580);
- to afford the people of the State of Arkansas a voice in the permitting of hazardous waste facilities within their respective counties;
- to establish a statewide program designed to protect society and the environment from the risks and burdens associated with the continued practice of disposing of those forms of hazardous waste which could otherwise be treated;
- to encourage the development and utilization of techniques which result in the recovery, reclamation and conservation of resources of the State, including the reclamation and conservation or safeguarding of abandoned hazardous waste disposal sites;
- to encourage interstate cooperation and interstate agreements which would provide a requisite balance of disposal and treatment facilities among the states and which would reduce the amount of hazardous waste disposed of in the state, irrespective of the origin of such wastes; and
- to promote economic growth with environmental concern by establishing a program to assist industries in finding environmentally sound methods of disposing of hazardous waste.

CHAPTER 2

RULES PROMULGATED UNDER THE ARKANSAS HAZARDOUS WASTE MANAGEMENT ACT FOR ADMINISTRATION OF THE STATE RCRA PROGRAM

Section 1. AUTHORITY

The rules under this Chapter are promulgated pursuant to the Arkansas Hazardous Waste Management Act, as amended (Act 406 of 1979, as amended, A.C.A. §§ 8-7-201 *et seq.*)

Section 2. VIOLATIONS

Any of the following acts shall be considered a violation of this Rule and shall be subject to the penalties provided in the Arkansas Hazardous Waste Management Act of 1979 (Act 406 of 1979, as amended):

- (a) Failure to comply with the provisions of this Rule or with the terms of permits or orders issued hereunder.
- (b) To purposely or knowingly make any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this Rule, or to falsify, tamper with, or knowingly render inaccurate any monitoring device, testing device, or method required to be maintained under this Rule.
- (c) To dispose of hazardous waste at any disposal site or facility within the state of Arkansas other than one for which a permit has been issued by the Division pursuant to this Rule.
- (d) To engage in hazardous waste management contrary to the provisions of this Rule or in such a manner or place as to create or as is likely to be created a public health hazard or to cause water or air pollution within the meaning of the Arkansas Water and Air Pollution Control Act, as amended (A.C.A. §§ 8-4-201 *et seq.*)

Section 3. AMENDMENT AND UPDATE OF RULE No. 23 (HAZARDOUS WASTE MANAGEMENT)

(a) **Updates.** The Commission, at least annually, after the date of promulgation of any new or revised federal hazardous waste regulations shall conduct rulemaking procedures with reference to this Chapter necessary to maintain a State Hazardous Waste Management Program equivalent to the federal program. Such new or revised federal regulations upon the date of their publication as final rules of the U.S. Environmental Protection Agency shall constitute minimum guidelines to the Commission and the Director in formulating rulemaking proposals to this Rule, and shall not be construed to limit or interfere with the adoption of provisions more stringent than federal regulations.

(b) **Incorporations by Reference.** The regulations listed immediately below, promulgated by the U.S. Environmental Protection Agency, are hereby adopted as provisions of this Chapter as though set forth herein line for line and word for word with the exception that all references therein to “Administrator”, “Regional Administrator”, “Director”, or “State Director” shall be considered references to the “Director of the Division of Environmental Quality”; and all references to the “U.S. Environmental Protection Agency” or “EPA” shall be considered references to the “Division of Environmental Quality”- ,” *except for the following: §§260.21(d), 260.22, 262.11(b), 262.25, 262 Subsection E, 262 Subsection F, 262 Subsection H, 264.12, 264.143(h), 264.147(h),*

264.340(b)(1), 265.12, 265.147(b)(1)(i), 265.340(b)(1), 268.5, 268.6, 268.7(d), 268.13, 268.40(b), 268.42(b), 268.44, 270.3, 270.5, 270.11(a)(3), 270.32(c), 270.42(k)(2)(i), 270.51(a), 279.82(b), and 279.82(c). These sections shall retain the meaning of 'U.S. Environmental Protection Agency,' 'EPA, Administrator,' or 'Regional Administrator.'” All references elsewhere in this chapter to any of the following rules shall constitute a reference to the rule as herein adopted; and provided that the effective date of provisions adopted herein by reference as provisions of this Rule shall be the date such provisions are specified as being effective by the Commission in its rulemaking and the effective date of the federal regulations adopted herein shall have no bearing on the effective date of any provisions of this Rule.

Title 40 Code of Federal Regulations:

(1) Appendix IX of Part 261 (with the exception of delisting decisions for Arkansas companies; for analogous provisions, see Rule 23 § 261 Appendix IX);

(2) Appendix IX of Part 266; and

(3) Subpart A of Part 124 with the following exceptions: 124.1, 124.2, 124.3(b), 124.3(d), 124.3(e), 124.4, 124.5(b), 124.5(e), 124.5(g), 124.6(b), 124.9, 124.10(a)(1)(i), 124.10(a)(1)(iv), 124.10(a)(1)(v), 124.12(e), 124.14, 124.15, 124.16, 124.18, 124.19, and 124.21 (see also APC&EC Rule No. 8 (Administrative Procedures) for analogous provisions as referenced in § 270 of this Rule.)

(4) All as adopted as final rules (including “interim final rules” and “technical amendments”) published in the Federal Register by the U.S. Environmental Protection Agency on or before May 30, 2018.

Section 4. CONFLICT OF INTEREST.

(a) No employee of the Division shall have a financial interest in any hazardous waste management facility or in any commercial enterprise engaged in the transportation, treatment or disposal of hazardous waste or in any business which furnished real property, plans, labor, material or equipment to hazardous waste management facilities. For purposes of this Section, “financial interest of an employee of the Division” shall extend to that employee’s husband or wife if said husband or wife is a stockholder, an officer or a management official of a commercial entity engaged in any of the activities listed above.

(b) Payment by the owner or operator of a hazardous waste management facility to the Division pursuant to the provisions of § 6(i) shall not be construed to mean that the Division personnel serving as on-site inspectors have financial interest in such facility.

Section 5. (Reserved)

Section 6. FEES AND COSTS.

Permit Fees

(a) Any person who applies for a permit for the construction, operation, and/or post closure care of a hazardous waste management facility or unit shall submit as part of said application a money order or cashier’s check payable to the Division to cover permit fees in accordance with the following schedule(s):

(1) *Permits for Construction/Operation Commercial Facility:*

- (i) Base permit application fee - \$20,000 plus waste management activity fee (subsection b).
 - (ii) Unsolicited application amendment fee (during application review process) - \$3,000 plus applicable waste management activity fee.
 - (iii) Permit renewal fee - Base application fee plus waste management activity fee (subsection b).
 - (iv) Annual permit maintenance fee - \$15,000 plus waste management activity fee (subsection b).
- (2) *Permits for Construction/Operation - Noncommercial Facility:*
- (i) Base permit application fee - \$15,000 plus waste management activity fee (subsection b).
 - (ii) Unsolicited application amendment fee (during application review process) - \$2,250, plus applicable waste management activity fee
 - (iii) Permit renewal fee - Base application fee plus waste management activity fee (subsection b).
 - (iv) Annual permit maintenance fee - \$11,250 plus waste management activity fee (subsection b).
- (3) *Permits for Post Closure Care Only - Commercial Facility:*
- (i) Base permit application fee - \$20,000.
 - (ii) Unsolicited application amendment fee (during application review process) - \$3,000.
 - (iii) Permit renewal fee - Base application fee.
 - (iv) Annual permit maintenance fee - \$15,000.
- (4) *Permits for Post Closure Care Only - Noncommercial Facility:*
- (i) Base permit application fee – \$15,000.
 - (ii) Unsolicited application amendment fee

- (during application review process) – \$2,250.
(iii) Permit renewal fee – Base application fee.
(iv) Annual permit maintenance fee - \$11,250.

(5) Annual permit maintenance fees will not be assessed during the years in which permit renewal fees are assessed for commercial and noncommercial facilities.

(b) Each hazardous waste management facility or unit in which hazardous wastes are treated, stored or disposed will be assessed an additional fee (unless said fees are specifically excluded in subsections (c) and (d) below) for the type of waste management activity(ies) being conducted, in accordance with the schedule listed below. Fees addressed by this section shall be assessed and collected with the base permit application fee (except for the provisions of (g) below), the permit renewal fee, and annual permit maintenance fee and are based on the permitted maximum design capacities (including accumulated solids, where applicable), unless specified otherwise:

- (1) Container Storage.
 - (i) Commercial - \$10.00/100 gallons (or equivalent volume)
 - (ii) Noncommercial - \$7.50/100 gallons (or equivalent volume).
- (2) Tank Treatment and/or Storage.
 - (i) Commercial - \$100.00/1000 gallons (or equivalent volume)
 - (ii) Noncommercial - \$75.00/1000 gallons (or equivalent volume).
- (3) Waste Pile Storage and/or Disposal.
 - (i) Commercial - \$10.00/cubic yard (or equivalent volume)
 - (ii) Noncommercial - \$7.50/cubic yard (or equivalent volume).
- (4) Surface Impoundment Treatment, Storage, and/or Disposal.
 - (i) Commercial - \$60.00/1000 gallons (or equivalent volume).
 - (ii) Noncommercial - \$45.00/1000 gallons (or equivalent volume).
- (5) Land Treatment/Land Farm Treatment or Disposal.
 - (i) Commercial - \$10,000/acre.
 - (ii) Noncommercial - \$7,500/acre.(Fee based on active portion only.)
- (6) Landfill Disposal.
 - (i) Commercial - \$5,000/acre feet.
 - (ii) Noncommercial - \$4,000/acre feet.(Fee based on active portion only.)
- (7) Incineration, Boilers, Industrial Furnaces, and other Thermal Treatment (excluding Open Burning/Detonation of Waste Explosives).
 - (i) Commercial - \$3,000/ton/hr.
 - (ii) Noncommercial - \$2,250/ton/hr. (Fee based on waste feed rate.)
- (8) Open Burning/Detonation of Waste Explosives.
 - (i) Commercial - \$2.00/lb/day.
 - (ii) Noncommercial - \$1.50/lb/day.
- (9) Other Physical, Chemical, or Biological Treatment (not otherwise addressed in (1) through (8) above).

(i) Commercial - \$20.00/100 gallons/day
(or equivalent volume).

(ii) Noncommercial - \$15.00/100 gallons/day (or equivalent volume).

(c) The provisions of subsection (b) do not apply to impoundments, tanks or other storage devices which are an integral part of wastewater treatment systems required to have a NPDES discharge permit.

(d) Underground Injection Control (UIC) facilities which are subject to permitting for corrective action under 40 CFR 264.101 and 40 CFR 270.60, but not otherwise subject to permitting as a hazardous waste management facility, shall submit a money order or cashier's check payable to the Division as set forth below:

(1) Commercial facility.

(i) Base application fee - \$75,000.

(ii) Permit renewal fee - \$30,000.

(iii) Annual permit maintenance fee-\$10,000.

(2) Noncommercial facility.

(i) Base application fee - \$60,000.

(ii) Permit renewal fee - \$20,000.

(iii) Annual permit maintenance fee - \$7,500.

(e) Permit modification applications, other than Class 1 modifications as defined at § 270.42, must be accompanied by a money order or cashier's check payable to the Division. If payment is not received with the permit modification application, the Division will send an invoice for payment due within 5 business days. Payment of invoices may be made through ADEQ's online payment system (www.adeq.state.ar.us/fiscal). The fee shall be 50% of the base permit application fee as set forth in subsection (a). If additional waste management activities are applied for or operating capacities increased, an additional waste management fee shall be calculated from subsection (b) and added to the modification fee total.

(f) [Reserved]

(g) For any facility whose permit application is processed for an intent to deny the permit, but the facility submits a revised application in response to this notice of intent to deny, the facility shall be assessed 100% of the amount of the base application fee, and any applicable waste management activity fees before further review of the application is continued.

(h) The maximum annual amount of fees (exclusive of the unsolicited application amendment fee addressed at paragraph (a) above, and fees as addressed at paragraph (g) above, and (s) below) collected for any hazardous waste management facility permit pursuant to provisions of subsections (a), (b), (d), and (e) shall not exceed \$80,000 for noncommercial facilities or \$100,000 for commercial facilities, provided, however, that the Division may require such additional fees to be collected from the owner or operator of a commercial hazardous waste management facility as it deems necessary to compensate it for costs of providing on-site inspectors under subsection (i).

(i) In addition to fees required by subsections (a)-(e) any facility which as a condition of its permit is required to have on-site inspectors shall, prior to the Division's issuance of permit, submit a money order or cashier's check payable to the Division in the amount of one fourth the estimated annual cost to the Division of maintaining such inspectors and shall submit quarterly thereafter a money order or cashier's check payable to the Division in the amount of one fourth the aforesaid estimated annual costs. The Division may enter into contractual agreement with qualified engineering and testing firms to conduct inspections as described above.

(j) [Reserved]

Hazardous Waste Facility Operator Fees

(k) Any person who applies to the Division for certification as an operator of a commercial hazardous waste management facility shall submit as part of that application a money order or cashier's check of \$100 payable to the Division for initial application and \$25 annually thereafter for renewal of the certification. Nonpayment of the renewal fee within thirty (30) days of the anniversary date of issuance will cause automatic termination of the certification.

Closure Plan Fees

(l) Any person who submits a closure plan (partial or final) shall submit as part of said plan a money order or cashier check payable to the Division to cover closure plan fees as set forth below. The fees associated with this subsection are not applicable to closure plans submitted with a permit application (Part B permit application) for an operational permit at the time of permit application. They **are** applicable to closure of hazardous waste management units which operated without a permit (whether authorized or not) which are being closed under enforcement order or otherwise.

(1) Container Storage Areas and Tank Units:

(i) Initial Fee

- (1) Commercial Facility - \$5,000/unit.
- (2) Noncommercial Facility - \$4,000/unit.

(ii) Modification Fee

- (1) Commercial Facility - \$3,000/unit.
- (2) Noncommercial Facility - \$2,250/unit.

(2) Incinerators, Boilers, Industrial Furnaces, and other Thermal Treatment Units.

(i) Initial Fee

- (1) Commercial Facility - \$6,000/unit.
- (2) Noncommercial Facility - \$4,500/unit.

(ii) Modification Fee

- (1) Commercial Facility - \$3,000/unit.
- (2) Noncommercial Facility - \$2,250/unit.

(3) Waste Pile, Land Treatment, Surface Impoundment, and Landfill Units:

(i) Initial Fee

- (1) Commercial Facility - \$15,000/unit.
- (2) Noncommercial Facility - \$11,250/unit.

(ii) Modification Fee

- (1) Commercial Facility - \$5,000/unit.
- (2) Noncommercial Facility - \$3,750/unit.

(4) Open Burning/Open Detonation Units:

(i) Initial Fee

- (1) Commercial Facility - \$10,000/unit.
- (2) Noncommercial Facility - \$7,500/unit.

(ii) Modification Fee

- (1) Commercial Facility - \$5,000/unit.
- (2) Noncommercial Facility - \$3,750/unit.

(5) Other Treatment Units:

- (i) Initial Fee
 - (1) Commercial Facility - \$10,000/unit.
 - (2) Noncommercial Facility - \$7,500/unit.
- (ii) Modification Fee
 - (1) Commercial Facility - \$5,000/unit.
 - (2) Noncommercial Facility - \$3,750/unit.

(m) The maximum initial closure plan fee collected pursuant to subsection (j) shall not exceed \$15,000 for noncommercial facilities or \$20,000 for commercial facilities. A modification fee is not applicable if an amendment to the closure plan is made necessary due to changes in rules which become effective subsequent to submissions of the closure plan for approval.

Monitoring/Inspection Fees

(n) All treatment, storage, and disposal facilities (TSDF) shall be charged an annual monitoring/inspection fee as set forth below:

- (1) Commercial treatment, storage or disposal facilities - \$2,250.
- (2) Noncommercial treatment or disposal facilities - \$1,500.
- (3) Noncommercial storage facilities - \$1,125.

Each TSDF shall submit a money order or cashier's check payable to the Division by January 1 of each calendar year beginning January 1, 1990, and annually thereafter.

(o) [Reserved]

(p) All large quantity generators shall be charged an annual monitoring/inspection fee of \$500. Each generator shall submit a money order or cashier's check payable to the Division by January 1 of each calendar year.

(q) All small quantity generators shall be charged an annual monitoring/inspection fee of \$150. Each small quantity generator shall submit a money order or cashier's check payable to the Division by January 1 of each calendar year.

(r) All transporter transfer facilities shall be charged an annual monitoring/inspection fee of \$50. Each transfer facility shall submit a money order or cashier's check payable to the Division by January 1 of each calendar year.

(s) The fees associated with subsections (p), (q) and (r) shall be in addition to any fees specified elsewhere in this section. Monitoring and inspection fees are billed by the Division according to the latest Notification of Regulated Waste Activity on file at the Division.

Miscellaneous Fees and Costs

(t) Corrective Action Document (and other Technical Document or Proposal) Review (CADR) Fees. Staff review for all corrective action and/or technical documents and proposals, whether pursuant to an enforcement order, pursuant to seeking a permit, or based upon a request from a facility, firm or individual, will be charged at an initial rate of \$60.001 per staff hour for review time, but not exceeding \$15,000 per year for each solid waste management unit or group of solid waste management units in which the group of units will clearly be remediated as a single corrective action management unit. This is intended to include all work associated with corrective measures investigation, study, and implementation; and all proposal and technical documents reviewed by the Division.

- (1) In addition, this fee shall be assessed for detailed technical document reviews such as, but not limited to, plans and specifications for actual closure construction (not closure plans in applications), documents submitted to comply with new regulatory requirements,

documents for facility or process proposals, etc., reviewed by the Division.

(2) In the case where a facility is providing for payment of third party oversight services, which accompanies the work described in the two paragraphs immediately above, the maximum total review fee charged by the Division shall not exceed an annual amount equal to \$2,500 for each solid waste management unit at the facility or 10% of the maximum oversight contract limit, for a twelve month period for the third-party oversight contract(s), whichever is least.

(3) The hourly technical review fee shall be adjusted annually according to the inflation rate as determined by the U.S. Department of Labor estimate of Consumer Price Index (CPI) for the specific year in question.

(u) Whenever the Division incurs an expense as a result of investigating any violation of this Rule or as a result of responding to and monitoring the effects of, spills of hazardous waste, including upset conditions within a hazardous waste management facility or other location which generates or handles hazardous waste, the Director may require the person responsible for such violation, spill or upset condition to submit a money order or cashier's check to the Division associated with the Division's response, investigations and monitoring activities. The charges associated with this subsection (u) shall be in addition to any fees specified elsewhere in this section.

(v) [Reserved]

(1) This fee is adjusted at the first of April each calendar year. As a result of applying the annual updates, the CADR fee rate as of April 2012 was \$92.71 per hour.

(w) Fees collected under this Section shall not be refunded should a permit application or certification be disapproved pursuant to the provisions of this Rule or voluntarily withdrawn by the applicant. Nothing in this subsection shall prohibit the Division from crediting unused portions of fees from permitted facilities toward future fees.

(x) All fees pursuant to this Section are due and payable in accordance with each subsection. A late fee of ten (10) percent of the total fee shall be charged for any fees unpaid after forty five (45) days from the billing date. No permit will be issued when indebtedness exists as a result of nonpayment of any of the above fees. Continued refusal to pay the required fees after a reasonable notice shall constitute a violation of this Rule and shall be grounds for legal action by the Division, which may include permit revocation.

(y) A financial assessment of the fee system shall be presented to the Commission annually by the Director.

(z) Fees and costs associated with the public participation proceedings regarding permit applications, permit decisions, or undertaking remedial or corrective action measures shall be borne by the permit applicant or facility's responsible party(ies). Such costs shall include, but are not limited to, charges for third parties such as publication fees, rental charges for hearing halls, professional charges for recording and transcription, and similar expenses associated with the public participation proceedings.

(aa) Fees on the Generation of Hazardous Waste

(1) On or before April 1 of each year:

(i) Every person who generated hazardous wastes in Arkansas during the preceding calendar year; and every person who accepted for treatment, storage, or disposal in Arkansas during the preceding calendar year hazardous wastes generated outside the State shall report the total amount of such hazardous wastes generated or accepted to the

Director on forms prescribed by the Division. (Note: for facilities subject to the Arkansas Annual Report of Hazardous Waste at §§ 262.41, 264.75, and/or 265.75, submission of the Annual Report on or before March 1 fulfills this reporting requirement.)

(ii) Every person required to report wastes pursuant to subsection (a) above shall be assessed a fee, based upon the combined total of such wastes (except as exempted at paragraph (3) below) and billed by the Division in accordance with reported waste generation, to be paid to the Division on or before July 1 of each year. These fees shall be calculated and paid according to the following schedule:

| Category | Pounds Generated | Annual Fee |
|-----------------|-------------------------|-------------------|
| 1 | 0 to 29,999 | \$ 0.00 |
| 2 | 30,000 to 99,999 | \$ 750.00 |
| 3 | 100,000 to 199,999 | \$ 1,500.00 |
| 4 | 200,000 to 299,999 | \$ 3,000.00 |
| 5 | 300,000 to 399,999 | \$ 5,000.00 |
| 6 | 400,000 to 499,999 | \$ 7,500.00 |
| 7 | 500,000 and above | \$10,000.00 |

(iii) No fee shall be assessed pursuant to paragraph (ii) above for hazardous wastes excluded from inclusion in a facility's determination of its compliance status or category as a generator (pursuant to § 261.5(c)(1)-(6) of this rule.

Section 260.

HAZARDOUS WASTE MANAGEMENT SYSTEM - GENERAL

Subsection A — General

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Subsection A – General

§ 260.1 Purpose, scope, and applicability

- (a) This section provides definitions of terms, general standards, and overview information applicable to Sections 260 through 279 of this rule.
- (b) In this part: (1) Section 260.2 sets forth the rules that the Division will use in making information it receives available to the public and sets forth the requirements that generators, transporters, or owners or operators of treatment, storage, or disposal facilities must follow to assert claims of business confidentiality with respect to information that is submitted to DEQ under Sections 260 through 265 and 268 of this rule.
- (2) Section 260.3 establishes rules of grammatical construction for Sections 260 through 265 and 268 of this rule.
- (3) Section 260.10 defines terms which are used in Sections 260 through 265 and 268 of this rule.
- (4) Section 260.20 establishes procedures for petitioning the Commission to amend, modify, or revoke any provision of Sections 260 through 265 and 268 of this rule and establishes procedures governing the Commission's action on such petitions.
- (5) Section 260.21 establishes procedures for petitioning the Commission to approve testing methods as equivalent to those prescribed in Sections 261, 264, or 265 of this rule.
- (6) Section 260.22 establishes procedures for petitioning the Commission to amend subsection D of Section 261 to exclude a waste from a particular facility.

§ 260.2 Availability of information; confidentiality of information

- (a) Any information provided to the Commission or the Division under this rule will be made available to the public to the extent and in the manner authorized by the Arkansas Freedom of Information Act, Ark. Code Ann. § 25-19-100 *et seq.*, and the federal Freedom of Information Act, 5 U.S.C. section 552, section 3007(b) of RCRA and EPA regulations implementing the Freedom of Information Act and RCRA section 3007(b), as applicable.
- (b) Except as provided under paragraphs (c) and (d) of this section, any person who submits

information to the Commission or Division in accordance with sections 260 through 266 and 268 of this rule may assert a claim of business confidentiality covering part or all of that information by following the procedures set forth in § 270.12 of this rule. Information covered by such a claim will be disclosed by the Commission or Division only to the extent, and by means of the procedures, set forth in § 270.12(h) except that information required by § 262.83 that is submitted in a notification of intent to export a hazardous waste will be provided to the U.S. Department of State and the appropriate authorities in the transit and receiving or importing countries regardless of any claims of confidentiality. However, if no such claim accompanies the information when it is received by the Division, it may be made available to the public without further notice to the person submitting it.

(c) (1) After August 6, 2014, no claim of business confidentiality may be asserted by any person with respect to information entered on a Hazardous Waste Manifest (EPA Form 8700-22), a Hazardous Waste Manifest Continuation Sheet (EPA Form 8700-22A), or an electronic manifest format that may be prepared and used in accordance with § 262.20(a)(3) of this section.

(2) EPA will make any electronic manifest that is prepared and used in accordance with § 262.20(a)(3), or any paper manifest that is submitted to the system under §§ 264.71(a)(6) or 265.71(a)(6) of this chapter available to the public under this section when the electronic or paper manifest is a complete and final document. Electronic manifests and paper manifests submitted to the system are considered by EPA to be complete and final documents and publicly available information after 90 days have passed since the delivery to the designated facility of the hazardous waste shipment identified in the manifest.

(d) (1) After June 26, 2018, no claim of business confidentiality may be asserted by any person with respect to information contained in cathode ray tube export documents prepared, used and submitted under §§ 261.39(a)(5) and 261.41(a) of this rule, and with respect to information contained in hazardous waste export, import, and transit documents prepared, used and submitted under §§ 262.82, 262.83, 262.84, 263.20, 264.12, 264.71, 265.12, 265.71, and 267.71 of this rule, whether submitted electronically into EPA's Waste Import Export Tracking System or in paper format.

(2) EPA will make any cathode ray tube export documents prepared, used and submitted under §§ 261.39(a)(5) and 261.41(a) of this chapter, and any hazardous waste export, import, and transit documents prepared, used and submitted under §§ 262.82, 262.83, 262.84, 263.20, 264.12, 264.71, 265.12, 265.71, and 267.71 of this chapter available to the public under this section when these electronic or paper documents are considered by EPA to be final documents. These submitted electronic and paper documents related to hazardous waste exports, imports and transits and cathode ray tube exports are considered by EPA to be final documents on March 1 of the calendar year after the related cathode ray tube exports or hazardous waste exports, imports, or transits occur.

§ 260.3 Use of number and gender

As used in Sections 260 through 273 of this rule:

- (a) Words in the masculine gender also include the feminine and neuter genders; and
- (b) Words in the singular include the plural; and
- (c) Words in the plural include the singular.

§260.4 Manifest copy submission requirements for certain interstate waste shipments.

(a) In any case in which the state in which waste is generated, or the state in which waste will be transported to a designated facility, requires that the waste be regulated as a hazardous waste or otherwise be tracked through a hazardous waste manifest, the designated facility that receives the waste shall, regardless of the state in which the facility is located:

- (1) Complete the facility portion of the applicable manifest;
- (2) Sign and date the facility certification;
- (3) Submit to the e-Manifest system a final copy of the manifest for data processing purposes; and
- (4) Pay the appropriate per manifest fee to EPA for each manifest submitted to the e-Manifest system, subject to the fee determination methodology, payment methods, dispute procedures, sanctions, and other fee requirements specified in subsection FF of Rule No. 23 Section 264.

§260.5 Applicability of electronic manifest system and user fee requirements to facilities receiving state-only regulated waste shipments.

(a) For purposes of this section, “state-only regulated waste” means:

- (1) A non-RCRA waste that a state regulates more broadly under its state regulatory program, or
- (2) A RCRA hazardous waste that is federally exempt from manifest requirements, but not exempt from manifest requirements under state law.

(b) In any case in which a state requires a RCRA manifest to be used under state law to track the shipment and transportation of a state-only regulated waste to a receiving facility, the facility receiving such a waste shipment for management shall:

- (1) Comply with the provisions of §§264.71 (use of the manifest) and 264.72 (manifest discrepancies) of this chapter; and
- (2) Pay the appropriate per manifest fee to EPA for each manifest submitted to the e-Manifest system, subject to the fee determination methodology, payment methods, dispute procedures, sanctions, and other fee requirements specified in subsection FF of Rule No. 23 Section 264.

Subsection B -- Definitions

§ 260.10 Definitions

When used in Sections 260 through 279 of this rule, the following terms have the meanings given below:

“**Above ground tank**” means a device meeting the definition of “tank” in § 260.10 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

“**Act**” means the Arkansas Hazardous Waste Management Act of 1979 (A.C.A. §§ 8-7-201 et

seq.), as amended.

“Active life of a facility” means the period from the initial receipt of hazardous waste at the facility until the Director receives certification of final closure.

“Active Portion” means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of provisions of this rule subjecting such facility to regulation, and which is not a closed portion. (See also “closed portion” and “inactive portion”.)

“Acute hazardous waste” means: hazardous wastes that meet the listing criteria in § 261.11(a)(2) and therefore are either listed in § 261.31 of this section with the assigned hazard code of (H) or are listed in § 261.33(e) of this section.

“Administrator” means the Administrator of the U.S. Environmental Protection Agency, or his designee.

“AES filing compliance date” means: the date that EPA announces in the Federal Register, on or after which exporters of hazardous waste and exporters of cathode ray tubes for recycling are required to file EPA information in the Automated Export System or its successor system, under the International Trade Data System (ITDS) platform.

“Ancillary equipment” means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site.

“Aquifer” means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

“Authorized representative” means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility.

“Battery” means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term “battery” also includes an intact, unbroken battery from which the electrolyte has been removed.

“Boiler” means an enclosed device using controlled flame combustion and having the following characteristics:

(1)(i) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(ii) The unit’s combustion chamber and primary energy recovery sections(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts

(iii) While in operation, the unit must maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(iv) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered

heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(2) The unit is one which the Director has determined, on a case-by-case basis, to be a boiler, after considering the standards in § 260.32.

“Carbon dioxide stream” means carbon dioxide that has been captured from an emission source (e.g., power plant), plus incidental associated substances derived from the source materials and the capture process, and any substances added to the stream to enable or improve the injection process.

“Carbon regeneration unit” means any enclosed thermal treatment device used to regenerate spent activated carbon.

“Cathode ray tube” or **“CRT”** means a vacuum tube, composed primarily of glass, which is the visual or video display component of an electronic device. A used, intact CRT means a CRT whose vacuum has not been released. A used, broken CRT means glass removed from its housing or casing whose vacuum has been released.

“Central accumulation area” means: any on-site hazardous waste accumulation area with hazardous waste accumulating in units subject to either § 262.16 (for small quantity generators) or § 262.17 of this section (for large quantity generators). A central accumulation area at an eligible academic entity that chooses to operate under section 262 subsection K is also subject to § 262.211 when accumulating unwanted material and/or hazardous waste.

“Certification” means a statement of professional opinion based upon knowledge and belief.

“CFR” means the Code of Federal Regulations.

“Closed portion” means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also “active portion” and “inactive portion”).

“Commercial Hazardous Waste Management Facility” means a hazardous waste management facility which does not meet the definition of a noncommercial hazardous waste facility as defined in this section.

“Commingling” means transfer of different hazardous wastes between DOT-approved containers performed by a transporter where the containers holding such wastes may be opened and mixed with other hazardous wastes. Any commingling that constitutes treatment as defined in this Section cannot occur in the course of transportation.

“Commission” means the Arkansas Pollution Control and Ecology Commission.

“Component” means either the tank or ancillary equipment of a tank system.

“Confined aquifer” means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

“Consolidation” means the transfer of containers of hazardous waste between transport conveyances by a hazardous waste transporter for the sole purpose of achieving transportation efficiencies where the containers holding such wastes are not opened or the wastes repackaged.

“Contained” means held in a unit (including a land-based unit as defined in this subsection) that meets the following criteria:

(1) The unit is in good condition, with no leaks or other continuing or intermittent unpermitted releases of the hazardous secondary materials to the environment, and is

designed, as appropriate for the hazardous secondary materials, to prevent releases of hazardous secondary materials to the environment. Unpermitted releases are releases that are not covered by a permit (such as a permit to discharge to water or air) and may include, but are not limited to, releases through surface transport by precipitation runoff, releases to soil and groundwater, wind-blown dust, fugitive air emissions, and catastrophic unit failures;

(2) The unit is properly labeled or otherwise has a system (such as a log) to immediately identify the hazardous secondary materials in the unit; and

(3) The unit holds hazardous secondary materials that are compatible with other hazardous secondary materials placed in the unit and is compatible with the materials used to construct the unit and addresses any potential risks of fires or explosions.

(4) Hazardous secondary materials in units that meet the applicable requirements of APC&EC Rule No. 23 Sections 264 or 265 are presumptively contained.

“Container” means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

“Containment Building” means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of Subsection DD of Sections 264 or 265 of this rule.

“Contingency Plan” means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

“Corrosion expert” means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

“CRT collector” means a person who receives used, intact CRTs for recycling, repair, resale, or donation.

“CRT exporter” means any person in the United States who initiates a transaction to send used CRTs outside the United States or its territories for recycling or reuse, or any intermediary in the United States arranging for such export.

“CRT glass manufacturer” means an operation or part of an operation that uses a furnace to manufacture CRT glass.

“CRT processing” means conducting all of the following activities:

- (1) Receiving broken or intact CRTs; and
- (2) Intentionally breaking intact CRTs or further breaking or separating broken CRTs; and
- (3) Sorting or otherwise managing glass removed from CRT monitors.

“Division” or “DEQ” means the Division of Environmental Quality.

“Designated facility” means (a hazardous waste treatment, storage, or disposal facility which :

- (1) has received a permit (or interim status) in accordance with the requirements of Section 270 of this Rule and 40 CFR 124,
- (2) has received a permit (or interim status) from a State authorized in accordance with 40

CFR 271, or

(3) is regulated under § 261.6(c)(2) or Subsection F of Section 266 of this Rule, and

(4) that has been designated on the manifest by the generator pursuant to § 262.20 of this Rule.

“Designated facility” also means a generator site designated on the manifest to receive its waste as a return shipment from a facility that has rejected the waste in accordance with § 264.72(f) or § 265.72(f) of this Rule. If a waste is destined to a facility in an authorized State which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility must be a facility allowed by the receiving State to accept such waste.

“Destination facility” means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in subparagraphs (a) and (c) of sections 273.13 and 273.33. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

“Dike” means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

“Dioxins and furans (D/F)” means tetra, penta, hexa, hepta, and octa-chlorinated dibenzo dioxins and furans.

“Director” means the Director of the Division of Environmental Quality, or his designated representative.

“Discharge or hazardous waste discharge” means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

“Disposal” means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

“Disposal facility” means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term *disposal facility* does not include a corrective action management unit into which remediation wastes are placed.

“Drip pad” is an engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

“Electronic import-export reporting compliance date” means: the date that EPA announces in the Federal Register, on or after which exporters, importers, and receiving facilities are required to submit certain export and import related documents to EPA using EPA’s Waste Import Export Tracking System, or its successor system.

“Electronic manifest” (or e-Manifest) means the electronic format of the hazardous waste manifest that is obtained from EPA’s national e-Manifest system and transmitted electronically to the system, and that is the legal equivalent of EPA Forms 8700-22 (Manifest) and 8700-22A (Continuation Sheet).

“Electronic Manifest System” (or e-Manifest System) means EPA’s national information technology system through which the electronic manifest may be obtained, completed, transmitted,

and distributed to users of the electronic manifest and to regulatory agencies.

“Elementary neutralization unit” means a device which:

(1) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in § 261.22 of this rule, or they are listed in Subsection D of Section 261 of this rule only for this reason; and

(2) Meets the definition of tank, tank system, container, transport vehicle, or vessel in § 260.10 of this rule.

“EPA hazardous waste number” means the unique number assigned by the EPA to each hazardous waste listed in Section 261, Subsection D, of this rule and to each characteristic identified in Section 261, Subsection C, of this rule.

“EPA identification number” means the number assigned by EPA or the Division of Environmental Quality to each generator, transporter, and treatment, storage, or disposal facility.

“EPA region” means the states and territories found in any one of the following ten regions:

Region I — Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island.

Region II — New York, New Jersey, Commonwealth of Puerto Rico, and the U.S. Virgin Islands.

Region III — Pennsylvania, Delaware, Maryland, West Virginia, Virginia, and the District of Columbia.

Region IV — Kentucky, Tennessee, North Carolina, Mississippi, Alabama, Georgia, South Carolina, and Florida.

Region V — Minnesota, Wisconsin, Illinois, Michigan, Indiana and Ohio.

Region VI — New Mexico, Oklahoma, **Arkansas**, Louisiana, and Texas.

Region VII — Nebraska, Kansas, Missouri, and Iowa.

Region VIII — Montana, Wyoming, North Dakota, South Dakota, Utah, and Colorado.

Region IX — California, Nevada, Arizona, Hawaii, Guam, American Samoa, Commonwealth of the Northern Mariana Islands.

Region X — Washington, Oregon, Idaho, and Alaska.

“Equivalent method” means any testing or analytical method approved by the Commission under §§ 260.20 and 260.21.

“Existing hazardous waste management (HWM) facility” or **“existing facility”** means a facility which was in operation or for which construction commenced on or before March 14, 1979. A facility has commenced construction if:

(1) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction; and either

(2)(i) A continuous on-site, physical construction program has begun; or

(ii) The owner or operator has entered into contractual obligations — which cannot be cancelled or modified without substantial loss — for physical construction of the facility to be completed within a reasonable time.

“Existing portion” means that land surface area of an existing waste management unit, included in the original part A permit application, on which wastes have been placed prior to the issuance of a permit.

“Existing tank system” or **“existing component”** means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Installation will be considered to have

commenced if the owner or operator has obtained all Federal, State, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous on-site physical construction or installation program has begun, or (2) the owner or operator has entered into contractual obligations — which cannot be canceled or modified without substantial loss — for physical construction of the site or installation of the tank system to be completed within a reasonable time.

“Explosives or munitions emergency” means a situation involving the suspected or detected presence of unexploded ordnance (UXO), damaged or deteriorated explosives or munitions, an improvised explosive device (IED), other potentially explosive material or device, or other potentially harmful military chemical munitions or device, that creates an actual or potential imminent threat to human health, including safety, or the environment, including property, as determined by an explosives or munitions emergency response specialist. Such situations may require immediate and expeditious action by an explosives or munitions emergency response specialist to control, mitigate, or eliminate the threat.

“Explosives or munitions emergency response” means all immediate response activities by an explosives and munitions emergency response specialist to control, mitigate, or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment or destruction of the explosives or munitions and/or transporting those items to another location to be rendered safe, treated, or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen, or uncontrollable circumstance will not terminate the explosives or munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at RCRA facilities.

“Explosives or munitions emergency response specialist” means an individual trained in chemical or conventional munitions or explosives handling, transportation, render-safe procedures, or destruction techniques. Explosives or munitions emergency response specialists include Department of Defense (DOD) emergency explosive ordnance disposal (EOD), technical escort unit (TEU), and DOD-certified civilian or contractor personnel; and other Federal, State, or local government, or civilian personnel similarly trained in explosives or munitions emergency responses.

“Facility” means:

(1) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste, or for managing hazardous secondary materials prior to reclamation. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

(2) For the purpose of implementing corrective action under § 264.101 or 267.101 of this rule, all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA *and/or the Arkansas Hazardous Waste Management Act*. This definition also applies to facilities implementing corrective action under RCRA § 3008(h) *or the Arkansas Remedial Action Trust Fund Act*.

(3) Notwithstanding paragraph (2) of this definition, a remediation waste management site is not a facility that is subject to § 264.101, but is subject to corrective action requirements if the site is located within such a facility.

“Federal agency” means any department, agency, or other instrumentality of the Federal Government, any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

“Federal, State and local approvals or permits necessary to begin physical construction” means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations or ordinances.

“Final closure” means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under Sections 264 and 265 of this rule are no longer conducted at the facility unless subject to the provisions in § 262.34.

“Food-chain crops” means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

“Free liquids” means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

“Freeboard” means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

“Generation” *means the act or process which results in the production of waste materials.*

“Generator” means any person, by site, whose act or process produces hazardous waste identified or listed in Section 261 of this rule or whose act first causes a hazardous waste to become subject to regulation.

“Ground water” means water below the land surface in a zone of saturation.

“Hazardous secondary material” means a secondary material (e.g., spent material, byproduct, or sludge) that, when discarded, would be identified as hazardous waste under Section 261 of this rule.

“Hazardous secondary material generator” means any person whose act or process produces hazardous secondary materials at the generating facility. For purposes of this paragraph, “generating facility” means all contiguous property owned, leased, or otherwise controlled by the hazardous secondary material generator. For the purposes of § 261.2(a)(2)(ii) and § 261.4(a)(23), a facility that collects hazardous secondary materials from other persons is not the hazardous secondary material generator.

“Hazardous Waste” means a hazardous waste as defined in § 261.3 of this rule.

“Hazardous waste constituent” means a constituent that caused the EPA Administrator or Commission to list the hazardous waste in Section 261, Subsection D, of this rule, or a constituent listed in Table 1 of § 261.24 of this rule.

“Hazardous waste management” *means the systematic control of the generation, collection, distribution, marketing, source separation, storage, transportation, processing, recovery, disposal and treatment of hazardous waste.*

“Hazardous waste management unit” is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

“In operation” refers to a facility which is treating, storing, or disposing of hazardous waste.

“Inactive portion” means that portion of a facility which is not operated after the effective date of § 261 of this rule. (See also “active portion” and “closed portion”.)

“Incinerator” means any enclosed device that:

- (1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or
- (2) Meets the definition of infrared incinerator or plasma arc incinerator.

“Incompatible waste” means a hazardous waste which is unsuitable for:

- (1) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or
- (2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

(See appendix V of Sections 264 and 265 of this rule for examples.)

“Individual generation site” means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

“Industrial furnace” means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

- (1) Cement kilns
- (2) Lime kilns
- (3) Aggregate kilns
- (4) Phosphate kilns
- (5) Coke ovens
- (6) Blast furnaces
- (7) Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters, and foundry furnaces)
- (8) Titanium dioxide chloride process oxidation reactors
- (9) Methane reforming furnaces
- (10) Pulping liquor recovery furnaces
- (11) Combustion devices used in the recovery of sulfur values from spent sulfuric acid
- (12) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least 3%, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of 20% as-generated.
- (13) Such other devices as the Commission may, after notice and comment, add to this list on the basis of one or more of the following factors:
 - (i) The design and use of the device primarily to accomplish recovery of material products;
 - (ii) The use of the device to burn or reduce raw materials to make a material product;
 - (iii) The use of the device to burn or reduce secondary materials as effective

- substitutes for raw materials, in processes using raw materials as principal feedstocks;
- (iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;
 - (v) The use of the device in common industrial practice to produce a material product; and
 - (vi) Other factors, as appropriate.

“Infrared incinerator” means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

“Inground tank” means a device meeting the definition of “tank” in § 260.10 whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

“Injection well” means a well into which fluids are injected. (See also “underground injection”.)

“Inner liner” means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

“Installation inspector” means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

“Intermediate facility” means any facility that stores hazardous secondary materials for more than 10 days, other than a hazardous secondary material generator or reclaimer of such material.

“International shipment” means the transportation of hazardous waste into or out of the jurisdiction of the United States.

“Lamp”, also referred to as **“universal waste lamp”**, is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps.

“Land-based unit” means an area where hazardous secondary materials are placed in or on the land before recycling. This definition does not include land-based production units.

“Landfill” means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

“Landfill cell” means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

“Land treatment facility” means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

“Large quantity generator” means a generator who generates any of the following amounts in a calendar month:

- (1) Greater than or equal to 1,000 kilograms (2200 lbs) of non-acute hazardous waste; or
- (2) Greater than 1 kilogram (2.2 lbs) of acute hazardous waste listed in § 261.31 or § 261.33(e) of this rule; or

(3) Greater than 100 kilograms (220 lbs) of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste listed in § 261.31 or § 261.33(e) of this rule.

“Leachate” means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

“Leak-detection system” means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

“Liner” means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

“Management” or **“hazardous waste management”** means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

“Manifest” means the shipping document EPA Form 8700-22 (including, if necessary, EPA Form 8700-22A), or the electronic manifest, originated and signed in accordance with the applicable requirements of sections 262 through 265.

“Manifest tracking number” means: the alphanumeric identification number (i.e., a unique three letter suffix preceded by nine numerical digits), which is pre-printed in Item 4 of the Manifest by a registered source.

“Mercury-containing device” means a device or a part of a device (including thermostats, but excluding batteries and lamps) which contains elemental mercury integral to its function.

“Military munitions” means all ammunition products and components produced or used by or for the U.S. Department of Defense or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include non-nuclear components of nuclear devices, managed under DOE’s nuclear weapons program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.

“Mining overburden returned to the mine site” means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

“Miscellaneous unit” means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land

treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR Part 146, containment building, corrective action management unit, or unit eligible for a research, development, and demonstration permit under § 270.65, or staging pile.

“**Movement**” means that hazardous waste transported to a facility in an individual vehicle.

“**New hazardous waste management facility**” or “**new facility**” means a facility which began operation, or for which construction commenced after November 19, 1980. (See also “Existing hazardous waste management facility”.)

“**New tank system**” or “**new tank component**” means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after July 14, 1986; except, however, for purposes of § 264.193(g)(2) and § 265.193(g)(2), a new tank system is one for which construction commences after July 14, 1986. (See also “existing tank system.”)

“**No free liquids**” as used in Rule 23 §§ 262.4(a)(26) and 261.4(b)(18), means that solvent-contaminated wipes may not contain free liquids as determined by Method 9095B (Paint Filter Liquids Test), included in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (EPA Publication SW-846), which is incorporated by reference, and that there is no free liquid in the container holding the wipes. No free liquids may also be determined using another standard or test method as defined by an authorized state.

“**Non-acute hazardous waste**” means: all hazardous wastes that are not acute hazardous waste, as defined in this section.

*“**Noncommercial Hazardous Waste Facility**” means a hazardous waste management facility which is constructed and operated to store, treat, and/or dispose of hazardous waste which has been generated by the owners or operators of said facility and which storage, treatment or disposal is not undertaken for profit. A noncommercial hazardous waste facility may accept, at cost or profit, hazardous waste which has been generated by persons other than the owners or operators of said facility, provided that the total amount of such wastes does not exceed 5 (five) percent of the facility’s annual operating capacity and provided that the permit for said facility authorizes the acceptance of such waste for storage, treatment, and/or disposal.*

“**On-ground tank**” means a device meeting the definition of “tank” in § 260.10 and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

“**On-site**” means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

“**Open burning**” means the combustion of any material without the following characteristics:

- (1) Control of combustion air to maintain adequate temperature for efficient combustion,
- (2) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
- (3) Control of emission of the gaseous combustion products.

(See also “incineration” and “thermal treatment”.)

“**Operator**” means an individual or individuals charged with the responsibility of managing or operating a hazardous waste management facility, including the responsibility for assuring the

operation of said facility is in accordance with the provisions of this hazardous waste management rule.

“Owner” means the person who owns a facility or part of a facility.

“Partial Closure” means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of Sections 264 and 265 of this rule at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

“Permit” means a written permit issued by the Arkansas Department of Transportation authorizing a person to transport hazardous waste (Hazardous Waste Transportation Permit), or a written permit issued by the Division of Environmental Quality authorizing the establishment, construction, operation, and/or maintenance of a hazardous waste treatment, disposal, or storage facility or site.

“Permitted Site” means any site used for disposal, treatment or storage of hazardous waste which has a current valid operating permit issued by the Division of Environmental Quality.

“Person” means an individual, corporation, company, firm, partnership, association, trust, joint stock company, joint venture, state or federal agency or instrumentality, county, city, town, or municipal authority, trust venture or any other legal entity, or combination of entities however organized.

“Personnel” or **“facility personnel”** means all persons who work at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of Section 264 or 265 of this rule.

“Pesticide” means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

- (1) Is a new animal drug under the federal FFDCA section 201(w), or
- (2) Is an animal drug that has been determined by regulation of the Secretary of the federal Health and Human Services not to be a new animal drug, or
- (3) Is an animal feed under the federal FFDCA section 201(x) that bears or contains any substances described by paragraph (1) or (2) of this section.

“Pile” means any non-containerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

“Plasma arc incinerator” means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

“Point source” means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

“Publicly owned treatment works” or **“POTW”** means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a “State” or “municipality” (as defined by section 502(4) of the CWA). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

“Qualified Groundwater Scientist” means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and has sufficient training and experience in ground-water hydrology and related fields as may be demonstrated by state registration, professional certifications, or completion of accredited university courses that enable that individual to make sound professional judgements regarding ground-water monitoring and contaminant fate and transport.

“RCRA” means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. section 6901 et seq.

“Recognized trader” means a person domiciled in the United States, by site of business, who acts to arrange and facilitate transboundary movements of wastes destined for recovery or disposal operations, either by purchasing from and subsequently selling to United States and foreign facilities, or by acting under arrangements with a United States waste facility to arrange for the export or import of the wastes.

“Regional Administrator” means the Regional Administrator for the EPA Region in which the facility is located, or his designee.

“Remanufacturing” means processing a higher-value hazardous secondary material in order to manufacture a product that serves a similar functional purpose as the original commercial-grade material. For the purpose of this definition, a hazardous secondary material is considered higher value if it was generated from the use of a commercial-grade material in a manufacturing process and can be remanufactured into a similar commercial-grade material.

“Remediation waste” means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris that are managed for implementing cleanup.

“Remediation waste management site” means a facility where an owner or operator is or will be treating, storing or disposing of hazardous remediation wastes. A remediation waste management site is not a facility that is subject to corrective action under § 264.101 of this rule, but is subject to corrective action requirements if the site is located in such a facility.

“Replacement unit” means a landfill, surface impoundment, or waste pile unit (1) from which all or substantially all of the waste is removed, and (2) that is subsequently reused to treat, store, or dispose of hazardous waste. “Replacement unit” does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or EPA- or State-approved corrective action.

“Representative sample” means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.

“Run-off” means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

“Run-on” means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

“Saturated zone” or **“zone of saturation”** means that part of the earth’s crust in which all voids are filled with water.

“Shipper” means any person initiating transportation of hazardous waste. A shipper may include a generator or storage, treatment or disposal facility.

“Site” means any real property located within the boundary of the State of Arkansas which is, has been subsequent to March 14, 1979, or is contemplated to be used for treatment, storage,

disposal, or generation of hazardous wastes.

“Sludge” means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

“Sludge dryer” means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 BTU/lb of sludge treated on a wet-weight basis.

“Small Quantity Generator” means a generator who generates the following amounts in a calendar month.

(1) Greater than 100 kilograms (220 lbs) but less than 1,000 kilograms (2200 lbs) of non-acute hazardous waste; and

(2) Less than or equal to 1 kilogram (2.2 lbs) of acute hazardous waste listed in § 261.31 or § 261.33(e) of this rule; and

(3) Less than or equal to 100 kilograms (220 lbs) of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste listed in § 261.31 or § 261.33(e) of this rule.

“Solid waste” means a solid waste as defined in § 261.2 of this rule.

“Solid waste management unit”, or “SWMU” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous wastes. Such units include any area at a facility at which solid wastes have been routinely or systematically released.

“Solvent-contaminated wipe” means a wipe that, after use or after cleaning up a spill either (1) contains one or more of the F001 through F005 solvents listed in Rule 23 § 261.31 or the corresponding P- or U- listed solvents found in Rule 23 § 261.33; (2) exhibits a hazardous characteristic found in Rule 23 § 261 subsection C when that characteristic results from a solvent listed in Rule 23 § 261; and/or (3) exhibits only the hazardous waste characteristic of ignitability found in Rule 23 § 261.21 due to the presence of one or more solvents that are not listed in Rule 23 § 261. Solvent contaminated wipes that contain listed hazardous waste other than solvents, or exhibit the characteristic of toxicity, corrosivity, or reactivity due to contaminants other than solvents, are not eligible for the exclusions at Rule 23 § 261.4(a)(26) and 261.4(b)(18).

“Sorbent” means a material that is used to soak up free liquids by either adsorption or absorption, or both. “Sorb” means to either adsorb or absorb, or both.

“Staging pile” means an accumulation of solid, non-flowing remediation waste (as defined in this section) that is not a containment building and that is used only during remedial operations for temporary storage at a facility. Staging piles must be designated by the Director according to the requirements of § 264.554 of this rule.

“State” means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

“Storage” means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

“Sump” means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serve to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile rules, “sump” means any lined pit or reservoir that serves to collect liquids drained from a

leachate collection and removal system or leak detection system for subsequent removal from the system.

“Surface impoundment or impoundment” means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

“Tank” means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

“Tank system” means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

“TEQ” means toxicity equivalence, the international method of relating the toxicity of various dioxin/furan congeners to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin.

“Thermal treatment” means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also “incinerator” and “open burning”.)

“Thermostat” means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of § 273.13(c)(2) or 273.33(c)(2).

“Totally enclosed treatment facility” means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

“Transfer facility” means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste or hazardous secondary materials are held during the normal course of transportation.

“Transport” means the movement of wastes from the point of generation to any intermediate points, or to the point of ultimate storage, treatment or disposal.

“Transport vehicle” means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

“Transportation” means the movement of hazardous waste by air, rail, highway, or water.

“Transporter” means a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

“Treatability study” means a study in which a hazardous waste is subjected to a treatment process to determine: (1) Whether the waste is amenable to the treatment process, (2) what pretreatment (if any) is required, (3) the optimal process conditions needed to achieve the desired treatment, (4) the efficiency of a treatment process for a specific waste or wastes, or (5) the characteristics and volumes of residuals from a particular treatment process. Also included in this definition for the purpose of the § 261.4 (e) and (f) exemptions are liner compatibility, corrosion,

and other material compatibility studies and toxicological and health effects studies. A “treatability study” is not a means to commercially treat or dispose of hazardous waste.

“**Treatment**” means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

“**Treatment Facility**” means a location at which waste is subject to treatment and may include a facility where waste has been generated.

“**Treatment zone**” means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

“**Ultimate Controlling Person**” means a person who is not controlled by another person.

“**Underground injection**” means the subsurface emplacement of fluids through a bored, drilled or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also “injection well”.)

“**Underground tank**” means a device meeting the definition of “tank” in § 260.10 whose entire surface area is totally below the surface of and covered by the ground.

“**Unfit-for-use tank system**” means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

“**Unsaturated zone**” or “**zone of aeration**” means the zone between the land surface and the water table.

“**User of the electronic manifest system**” means a hazardous waste generator, a hazardous waste transporter, an owner or operator of a hazardous waste treatment, storage, recycling, or disposal facility, or any other person that:

(1) Is required to use a manifest to comply with:

(i) Any federal or state requirement to track the shipment, transportation, and receipt of hazardous waste or other waste material that is shipped from the site of generation to an off-site designated facility for treatment, storage, recycling, or disposal; or

(ii) Any federal or state requirement to track the shipment, transportation, and receipt of rejected wastes or regulated container residues that are shipped from a designated facility to an alternative facility, or returned to the generator; and

(2) Elects to use the system to obtain, complete and transmit an electronic manifest format supplied by the EPA electronic manifest system, or

(3) Elects to use the paper manifest form and submits to the system for data processing purposes a paper copy of the manifest (or data from such a paper copy), in accordance with § 264.71(a)(2)(v) or § 265.71(a)(2)(v) of this rule. These paper copies are submitted for data exchange purposes only and are not the official copies of record for legal purposes.

“**United States**” means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

“**Universal Waste**” means any of the following hazardous wastes that are managed under the universal waste requirements of Section 273 of this rule:

(1) Batteries as described in § 273.2 of this rule;

(2) Pesticides as described in § 273.3 of this rule;

- (3) Mercury-containing devices as described in § 273.4 of this rule;
- (4) Lamps as described in § 273.5 of this rule; and
- (5) *Consumer electronic items (“electronic wastes”) as described in § 273.6 of this rule.*

“Universal Waste Handler”:

(1) Means:

- (a) A generator (as defined in this section) of universal waste; or
- (b) The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(2) Does not mean:

- (a) A person who treats (except under the provisions of § 273.13(a) or (c), or 273.33(a) or (c)), disposes of, or recycles universal waste; or
- (b) A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

“Universal Waste Transporter” means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

“Uppermost aquifer” means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically inter-connected with this aquifer within the facility’s property boundary.

“Used oil” means any oil that has been refined from crude oil, or any synthetic oil, and as a result of such use is contaminated by physical or chemical impurities.

“User of the electronic manifest system” means a hazardous waste generator, a hazardous waste transporter, an owner or operator of a hazardous waste treatment, storage, recycling, or disposal facility, or any other person that: (1) Is required to use a manifest to comply with: (i) Any federal or state requirement to track the shipment, transportation, and receipt of hazardous waste or other waste material that is shipped from the site of generation to an off-site designated facility for treatment, storage, recycling, or disposal; or (ii) Any federal or state requirement to track the shipment, transportation, and receipt of rejected wastes or regulated container residues that are shipped from a designated facility to an alternative facility, or returned to the generator; and (2) Elects to use the system to obtain, complete and transmit an electronic manifest format supplied by the EPA electronic manifest system, or (3) Elects to use the paper manifest form and submits to the system for data processing purposes a paper copy of the manifest (or data from such a paper copy), in accordance with § 264.71(a)(2)(v) or § 265.71(a)(2)(v) of this rule. These paper copies are submitted for data exchange purposes only and are not the official copies of record for legal purposes.

“Very small quantity generator” means: a generator who generates less than or equal to the following amounts in a calendar month:

- (1) 100 kilograms (220 lbs) of non-acute hazardous waste; and
- (2) 1 kilogram (2.2 lbs) of acute hazardous waste listed in § 261.31 or § 261.33(e) of this rule; and
- (3) 100 kilograms (220 lbs) of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste listed in § 261.31 or § 261.33(e) of this rule.

“Vessel” includes every description of watercraft, used or capable of being used as a means of

transportation on the water.

“Wastewater treatment unit” means a device which:

- (1) Is part of a wastewater treatment facility that is subject to regulation under either section 402 or 307(b) of the federal Clean Water Act; and
- (2) Receives and treats or stores an influent wastewater that is a hazardous waste as defined in § 261.3 of this rule, or that generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in § 261.3 of this rule, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in § 261.3 of this rule; and
- (3) Meets the definition of tank or tank system in § 260.10 of this rule.

“Water (bulk shipment)” means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

“Well” means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

“Well injection” (See “underground injection”.)

“Wipe” means a woven or non-woven shop towel, rag, pad, or swab made of wood pulp, fabric, cotton, polyester blends, or other material.

“Zone of engineering control” means an area under the control of the owner/operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.

§ 260.11 Incorporation by Reference

(a) When used in Sections 260 through 268, 270, 273, and 279 of this rule, the following publications are incorporated by reference. These incorporations by reference were approved by the Director of the Federal Register pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the Federal Register. Copies may be inspected at the Library, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW. (3403T), Washington, DC 20460, libraryhq@epa.gov; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html

(b) The following materials are available for purchase from the American Society for Testing and Materials, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

(1) ASTM D-93-79 or D-93-80, “Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester,” IBR approved for § 261.21.

(2) ASTM D-1946-82, “Standard Method for Analysis of Reformed Gas by Gas Chromatography,” IBR approved for §§ 264.1033, 265.1033.

(3) ASTM D 2267-88, “Standard Test Method for Aromatics in Light Naphthas and Aviation Gasolines by Gas Chromatography,” IBR approved for § 264.1063.

(4) ASTM D 2382-83, “Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method),” IBR approved for §§ 264.1033, 265.1033.

(5) ASTM D 2879-92, “Standard Test Method for Vapor Pressure—Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope,” IBR approved for § 265.1084.

(6) ASTM D-3278-78, “Standard Test Methods for Flash Point for Liquids by Setaflash Closed Tester,” IBR approved for § 261.21(a).

(7) ASTM E 168-88, “Standard Practices for General Techniques of Infrared Quantitative Analysis,” IBR approved for § 264.1063.

(8) ASTM E 169-87, “Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis,” IBR approved for § 264.1063.

(9) ASTM E 260-85, “Standard Practice for Packed Column Gas Chromatography,” IBR approved for § 264.1063.

(10) ASTM E 926-88, “Standard Test Methods for Preparing Refuse-Derived Fuel (RDF) Samples for Analyses of Metals,” Test Method C—Bomb, Acid Digestion Method.

(c) The following materials are available for purchase from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800.

(1) “APTI Course 415: Control of Gaseous Emissions,” EPA Publication EPA-450/2-81-005, December 1981, IBR approved for §§ 264.1035 and 265.1035.

(2) Method 1664, Revision A, n-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, PB99-121949, IBR approved for Section 261, appendix IX.

(3) The following methods as published in the test methods compendium known as “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, Third Edition. A suffix of “A” in the method number indicates revision one (the method has been revised once). A suffix of “B” in the method number indicates revision two (the method has been revised twice). A suffix of “C” in the method number indicates revision three (the method has been revised three times). A suffix of “D” in the method number indicates revision four (the method has been revised four times).

(i) Method 0010, dated September 1986 and in the Basic Manual, IBR approved for Section 261, appendix IX.

(ii) Method 0020, dated September 1986 and in the Basic Manual, IBR approved for Section 261, appendix IX.

(iii) Method 0030, dated September 1986 and in the Basic Manual, IBR approved for Section 261, appendix IX.

(iv) Method 1320, dated September 1986 and in the Basic Manual, IBR approved for Section 261, appendix IX.

(v) Method 1311, dated September 1992 and in Update I, IBR approved for Section 261, appendix IX, and §§ 261.24, 268.7, 268.40.

(vi) Method 1330A, dated September 1992 and in Update I, IBR approved for Section 261, appendix IX.

(vii) Method 1312 dated September 1994 and in Update III, IBR approved for Section 261, appendix IX and 40 CFR 278.3(b)(1).

(viii) Method 0011, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX, and Section 266, appendix IX.

(ix) Method 0023A, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX, Section 266, appendix IX, and § 266.104.

(x) Method 0031, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX.

(xi) Method 0040, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX.

(xii) Method 0050, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX, Section 266, appendix IX, and § 266.107.

(xiii) Method 0051, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX, Section 266, appendix IX, and § 266.107.

(xiv) Method 0060, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX, § 266.106, and Section 266, appendix IX.

(xv) Method 0061, dated December 1996 and in Update III, IBR approved for Section 261, appendix IX, § 266.106, and Section 266, appendix IX.

(xvi) Method 9071B, dated April 1998 and in Update IIIA, IBR approved for Section 261, appendix IX.

(xvii) Method 1010A, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX.

(xviii) Method 1020B, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX.

(xix) Method 1110A, dated November 2004 and in Update IIIB, IBR approved for § 261.22 and Section 261, appendix IX.

(xx) Method 1310B, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX.

(xxi) Method 9010C, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX and §§ 268.40, 268.44, 268.48.

(xxii) Method 9012B, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX and §§ 268.40, 268.44, 268.48.

(xxiii) Method 9040C, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX and § 261.22.

(xxiv) Method 9045D, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX.

(xxv) Method 9060A, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX, and §§ 264.1034, 264.1063, 265.1034, 265.1063.

(xxvi) Method 9070A, dated November 2004 and in Update IIIB, IBR approved for Section 261, appendix IX.

(xxvii) Method 9095B, dated November 2004 and in Update IIIB, IBR approved, Section 261, appendix IX, and §§ 264.190, 264.314, 265.190, 265.314, 265.1081, 267.190(a), 268.32.

(d) The following materials are available for purchase from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269–9101.

(1) “Flammable and Combustible Liquids Code” (NFPA 30), (1977 or 1981), IBR approved for §§ 262.16(b), 264.198(b), 265.198(b), 267.202(b).

(2) [Reserved]

(e) The following materials are available for purchase from the American Petroleum Institute, 1220 L Street, Northwest, Washington, DC 20005.

(1) API Publication 2517, Third Edition, February 1989, “Evaporative Loss from External Floating-Roof Tanks,” IBR approved for § 265.1084.

(2) [Reserved]

(f) The following materials are available for purchase from the Environmental Protection Agency, Research Triangle Park, NC.

(1) “Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised”, October 1992, EPA Publication No. EPA-450/R-92-019, IBR approved for Section 266, appendix IX.

(2) [Reserved]

(g) The following materials are available for purchase from the Organization for Economic Co-operation and Development, Environment Directorate, 2 rue Andre Pascal, F-75775 Paris Ceodex 16, France.

(1) Guidance Manual for the Control of Transboundary Movements of Recoverable Wastes, copyright 2009, Annex B: OECD Consolidated List of Wastes Subject to the Green Control Procedure and Annex C: OECD Consolidated List of Wastes Subject to the Amber Control Procedure, IBR approved for §§ 262.82(a), 262.83(b),(d), and (g), and 262.84(b) and (d) of this rule.

(2) [Reserved]

Subsection C -- Rulemaking Petitions

§ 260.20 General

(a) Any person may petition the Commission to modify or revoke any provision in this rule. This section sets forth general requirements which apply to all such petitions. Section 260.21 sets forth additional requirements for petitions to add a testing or analytical method to Sections 261, 264 or 265. Section 260.22 sets forth additional requirements for petitions to exclude a waste or waste-derived material at a particular facility from § 261.3 of this rule or the lists of hazardous wastes in Subsection D of Section 261. Section 260.23 sets forth additional requirements for petitions to amend Section 273 of this rule to include additional hazardous wastes or categories of hazardous waste as universal waste.

(b) Each petition *must be formatted as a pleading to the Commission* and must include:

(1) The petitioner’s name and address;

(2) A statement of the petitioner’s interest in the proposed action;

(3) A *detailed* description of the proposed action, including a *marked-up copy of the rule, or portion thereof, indicating all changes proposed in the petition*; and

(4) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(c) *Within sixty (60) days of the date of the petition’s submittal, the Commission shall either initiate rulemaking procedures or deny the petition. (A decision to initiate rulemaking procedures does not constitute an endorsement of the proposed change to existing rules.) If the Commission denies the petition, the reasons therefor shall be stated in writing to the petitioner. This denial shall constitute final Commission action for the purpose of appeal.*

(d) *If the Commission initiates rulemaking procedures in response to a third-party petition, or*

upon the written request of any interested person, the Commission shall cause notice of the proposed rule to be given as provided by APC&EC Rule No. 8, § 8.801 thru 8.803, and shall hold a public hearing as required by Rule No. 8, § 8.804 thru 8.806.

(e) The Commission shall direct the proponent of a third-party rule to compile or produce portions of the rulemaking record required by Rule No. 8, § 8.814. In all cases the proponent of a third-party rule shall prepare a proposed Statement of Basis and Purpose and Responsive Summary required by Rule No. 8, § 8.815 for the Commission's review prior to its final rulemaking decision.

(f) (1) Prior to the close of the public comment period, the Division shall state its position on any proposed third-party proposal to change regulations in writing for the record.

(2) The Division shall prepare its own proposed Statement of Basis and Purpose and Responsive Summary at the close of the public comment period pursuant to the guidelines of Rule No. 8, § 8.815.

(3) Upon consideration of the petitioner's and the Division's positions and proposed Statements of Basis and Purpose and Responsive Summaries, the Commission may issue its final ruling, or order whatever rulemaking proceedings it deems appropriate, giving due regard to the right of the public to fair notice as provided by this regulation and Rule No. 8.

§ 260.21 Petitions for equivalent testing or analytical methods

(a) Any person seeking to add a testing or analytical method to Section 261, 264, or 265 of this rule may petition for a regulatory amendment under this section and § 260.20. To be successful, the person must demonstrate to the satisfaction of the Commission that the proposed method is equal to or superior to the corresponding method prescribed in section 261, 264, or 265 of this regulation, in terms of its sensitivity, accuracy, and precision (i.e., reproducibility).

(b) Each petition must include, in addition to the information required by § 260.20(b):

(1) A full description of the proposed method, including all procedural steps and equipment used in the method;

(2) A description of the types of wastes or waste matrices for which the proposed method may be used;

(3) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in Sections 261, 264, or 265 of this rule;

(4) An assessment of any factors which may interfere with, or limit the use of, the proposed method; and

(5) A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

(c) After receiving a petition for an equivalent method, the Commission may request any additional information on the proposed method which it may reasonably require to evaluate the method.

(d) If the EPA Administrator amends the regulations to permit use of a new testing method, the method will be incorporated by reference in 40 CFR 260.11 and added to "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, U.S.

§ 260.22 Petitions to amend Section 261 to exclude a waste produced at a particular facility¹

(a) Any person seeking to exclude a waste at a particular generating facility from the lists in Subsection D of Section 261 of this rule may petition for a regulatory amendment under this section and 40 CFR 260.22. To be successful:

1. Editorial Notes:

1) For information on the availability of a guidance manual for petitions to delist hazardous wastes, see 50 FR 21607, May 28, 1985.

2) Delisting petitions approved by the Commission under the procedures in § 260.22 above are effective only within the borders of Arkansas. For delisting with Federal authorities, refer to 40 CFR 260.22.

3) Delisting petitions approved by the EPA Administrator under this section and 40 CFR 260.22 are effective in the State of Arkansas only after the final rule has been published in the Federal Register and the rule has been approved and adopted by the Commission in this Rule No. 23.

(1) The petitioner must first demonstrate to the satisfaction of the EPA Administrator, pursuant to the procedures at 40 CFR 260.22, that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste, and a final delisting decision must have been promulgated by EPA in the Federal Register;

(2) The petitioner must demonstrate to the satisfaction of the Commission that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste; and

(3) Based on a complete application, the Commission must determine, where there is a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of subsection C of Section 261.

(b) The procedures in this Section and § 260.20 may also be used to petition the Commission for a regulatory amendment to exclude from § 261.3(a)(2)(ii) or (c), a waste which is described in these Sections and is either a waste listed in Subsection D, or is derived from a waste listed in Subsection D. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by paragraph (a) of this section. Where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, his demonstration must be made with respect to the waste mixture as a whole; analyses must be conducted for not only those constituents for which the listed waste contained in the mixture was listed as hazardous, but also for factors (including additional constituents) that could cause the waste mixture to be a hazardous waste. A waste which is so excluded may still be a hazardous waste by operation of subsection C of Section 261.

(c) If the waste is listed with codes "I", "C", "R", or "E", in subsection D,

(1) The petitioner must show that the waste does not exhibit the relevant characteristic for which the waste was listed as defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein. The petitioner also must show that the waste does not exhibit any of the other characteristics defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein;

(2) Based on a complete application, the Commission must determine, where it has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of Subsection C of Section 261.

(d) If the waste is listed with code “T” in Subsection D,

(1) The petitioner must demonstrate that the waste:

(i) Does not contain the constituent or constituents (as defined in Appendix VII of Section 261 of this rule) that caused the Commission to list the waste; or

(ii) Although containing one or more of the hazardous constituents (as defined in Appendix VII of Section 261) that caused the EPA or the Commission to list the waste, does not meet the criterion of § 261.11(a)(3) when considering the factors used by the Commission in § 261.11(a)(3) (i) through (xi) under which the waste was listed as hazardous; and

(2) Based on a complete application, the Commission must determine, where it has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in § 261.21, § 261.22, § 261.23, and § 261.24 of this rule using any applicable methods prescribed therein;

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of Subsection C of Section 261.

(e) If the waste is listed with the code “H” in Subsection D,

(1) The petitioner must demonstrate that the waste does not meet the criterion of § 261.11(a)(2); and

(2) Based on a complete application, the Commission must determine, where it has a reasonable basis to believe that additional factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in § 261.21, § 261.22, § 261.23, and § 261.24 using any applicable methods prescribed therein;

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of subsection C of Section 261.

(f) [Reserved for listing radioactive wastes.]

(g) [Reserved for listed infectious wastes.]

(h) Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time sufficient to represent the variability or the

uniformity of the waste.

(i) Each petition must include, in addition to the information required by § 260.20(b):

- (1) The name and address of the laboratory facility performing the sampling or tests of the waste;
- (2) The names and qualifications of the persons sampling and testing the waste;
- (3) The dates of sampling and testing;
- (4) The location of the generating facility;
- (5) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;
- (6) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;
- (7) Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, where the demonstration is based on the factors in § 261.11(a)(3);
- (8) A description of the methodologies and equipment used to obtain the representative samples;
- (9) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization and preservation of the samples;
- (10) A description of the tests performed (including results);
- (11) The names and model numbers of the instruments used in performing the tests; and
- (12) The following statement signed by the generator of the waste or his authorized representative:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

(j) After receiving a petition for an exclusion, the Commission may request any additional information which it may reasonably require to evaluate the petition.

(k) An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to waste from any other facility.

(l) The Commission may exclude only part of the waste for which the demonstration is submitted where it has reason to believe that variability of the waste justifies a partial exclusion.

§ 260.23 Petitions to amend Section 273 to include additional hazardous wastes

(a) Any person seeking to add a hazardous waste or a category of hazardous waste to the universal waste rules of Section 273 of this rule may petition for a regulatory amendment under this section, § 260.20, and subsection G of § 273.

(b) To be successful, the petitioner must demonstrate to the satisfaction of the Commission that rule under the universal waste rules of Section 273: is appropriate for the waste or category of waste; will improve management practices for the waste or category of waste; and will improve implementation of the hazardous waste program. The petition must include the information required by § 260.20(b). The petition should also address as many of the factors listed in § 273.81

as are appropriate for the waste or category of waste addressed in the petition.

(c) The Commission will grant or deny a petition using the factors listed in § 273.81 and Rule No. 8. The decision will be based on the weight of evidence showing that regulation under § 273 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the hazardous waste program.

(d) The Commission may request additional information needed to evaluate the merits of the petition.

§ 260.30 Non-waste determinations and variances from classification as a solid waste

In accordance with the standards and criteria in § 260.31 and § 260.34 and the procedures in § 260.33, the Director may determine on a case-by-case basis that the following recycled materials are not solid wastes:

(a) Materials that are accumulated speculatively without sufficient amounts being recycled (as defined in § 261.1(c)(8) of this rule);

(b) Materials that are reclaimed and then reused within the original production process in which they were generated; ~~and~~

(c) Materials that have been reclaimed but must be reclaimed further before the materials are completely recovered.

(d) Hazardous secondary materials that are reclaimed in a continuous industrial process; and

(e) Hazardous secondary materials that are indistinguishable in all relevant aspects from a product or intermediate.

§ 260.31 Standards and criteria for variances from classification as a solid waste

(a) The Director may grant requests for a variance from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If a variance is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The Director's decision will be based on the following criteria:

(1) The manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur (for example, because of past practice, market factors, the nature of the material, or contractual arrangements for recycling);

(2) The reason that the applicant has accumulated the material for one or more years without recycling 75 percent of the volume accumulated at the beginning of the year;

(3) The quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled;

(4) The extent to which the material is handled to minimize loss;

(5) Other relevant factors.

(b) The Director may grant requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on the following criteria:

- (1) How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials;
- (2) The extent to which the material is handled before reclamation to minimize loss;
- (3) The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process;
- (4) The location of the reclamation operation in relation to the production process;
- (5) Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;
- (6) Whether the person who generates the material also reclaims it;
- (7) Other relevant factors.

(c) The Director may grant requests for a variance from classifying as a solid waste those hazardous secondary materials that have been partially reclaimed, but must be reclaimed further before recovery is completed, if the partial reclamation has produced a commodity-like material. A determination that a partially reclaimed material for which the variance is sought is commodity-like will be based on whether the hazardous secondary material is legitimately recycled as specified in § 260.43 of this section and on whether all of the following decision criteria are satisfied:

- (1) Whether the degree of partial reclamation the material has undergone is substantial as demonstrated by using a partial reclamation process other than the process that generated the hazardous waste;
- (2) Whether the partially-reclaimed material has sufficient economic value that it will be purchased for further reclamation;
- (3) Whether the partially-reclaimed material is a viable substitute for a product or intermediate produced from virgin or raw materials which is used in subsequent production steps;
- (4) Whether there is a market for the partially-reclaimed material as demonstrated by known customer(s) who are further reclaiming the material (e.g., records of sales and/or contracts and evidence of subsequent use, such as bills of lading);
- (5) Whether the partially-reclaimed material is handled to minimize loss.

(d) The Director may grant requests for a variance from classifying as a solid waste those hazardous secondary materials that are transferred for reclamation under § 261.4 (a)(24) and are managed at a verified reclamation facility or intermediate facility where the management of the hazardous secondary materials is not addressed under a RCRA Part B permit or interim status standards. The Director's decision will be based on the following criteria:

- (1) The reclamation facility of intermediate facility must demonstrate that the reclamation process for the hazardous secondary materials is legitimate pursuant to § 260.43;
- (2) The reclamation facility of intermediate facility must satisfy the financial assurance condition in § 261.4 (a)(24)(vi)(F);
- (3) The reclamation facility or intermediate facility must not be subject to a formal enforcement action in the previous three years and not be classified as a significant non-complier under RCRA Subtitle C, or must provide credible evidence that the facility will manage the hazardous secondary materials properly. Credible evidence may include a demonstration that the facility has taken remedial steps to address the violations and prevent

future violations, or that the violations are not relevant to the proper management of the hazardous secondary materials;

(4) The intermediate or reclamation facility must have the equipment and trained personnel needed to safely manage the hazardous secondary material and must meet emergency preparedness and response requirements under APC&EC Rule No. 23 Section 261 Subsection M;

(5) If residuals are generated from the reclamation of the excluded hazardous secondary materials, the reclamation facility must have the permits required (if any) to manage the residuals, have a contract with an appropriately permitted facility to dispose of the residuals or present credible evidence that the residuals will be managed in a manner that is protective of human health and the environment, and

(6) The intermediate or reclamation facility must address the potential for risk to proximate populations from unpermitted releases of the hazardous secondary material to the environment (i.e., releases that are not covered by a permit, such as a permit to discharge to water or air), which may include, but are not limited to, potential releases through surface transport by precipitation runoff, releases to soil and groundwater, wind-blown dust, fugitive air emissions, and catastrophic unit failures), and must include consideration of potential cumulative risks from other nearby potential stressors.

§ 260.32 Variance to be classified as a boiler

In accordance with the standards and criteria in § 260.10 (definition of “boiler”), and the procedures in § 260.33, the Director may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in § 260.10, after considering the following criteria:

- (a) The extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and
- (b) The extent to which the combustion chamber and energy recovery equipment are of integral design; and
- (c) The efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel; and
- (d) The extent to which exported energy is utilized; and
- (e) The extent to which the device is in common and customary use as a “boiler” functioning primarily to produce steam, heated fluids, or heated gases; and
- (f) Other factors, as appropriate.

§ 260.33 Procedures for variances from classification as a solid waste, for variances to be classified as a boiler, or for non-waste determinations

The Director will use the following procedures in evaluating applications for variances from classification as a solid waste, applications to classify particular enclosed controlled flame combustion devices as boilers, or applications for non-waste determinations.

- (a) The applicant must apply to the Director for the variance, or non-waste determination. The application must address the relevant criteria contained in § 260.31, § 260.32 or § 260.34 as applicable.

(b) The Director will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the locality where the recycler is located. The Director will accept comment on the tentative decision for 30 days, and may also hold a public hearing upon request or at its discretion. The Director will issue a final decision after receipt of comments and after the hearing (if any).

(c) In the event of a change in circumstances that affect how a hazardous secondary material meets the relevant criteria contained in § 260.31, § 260.32, or § 260.34 upon which a variance or non-waste determination has been based, the applicant must send a description of the change in circumstances to the Director. The Director may issue a determination that the hazardous secondary material continues to meet the relevant criteria of the variance or non-waste determination or may require the facility to re-apply for the variance or non-waste determination.

(d) Variances and non-waste determinations shall be effective for a fixed term not to exceed ten years. No later than six months prior to the end of this term, facilities must re-apply for a variance or non-waste determination. If a facility reapplies for a variance or non-waste determination within six months, the facility may continue to operate under an expired variance or non-waste determination until receiving a decision on their re-application from the Director.

(e) Facilities receiving a variance or non-waste determination must provide notification as required by § 260.42 of this rule.

§260.34 Standards and criteria for non-waste determinations

(a) An applicant may apply to the Director for a formal determination that a hazardous secondary material is not discarded and therefore not a solid waste. The determinations will be based on the criteria contained in paragraphs (b) or (c) of this section, as applicable. If an application is denied, the hazardous secondary material might still be eligible for a solid waste variance or exclusion (for example, one of the solid waste variances under § 260.31). Determinations may also be granted by the State if the State is either authorized for this provision or if the following conditions are met:

- (1) The State determines the hazardous secondary material meets the criteria in paragraphs (b) or (c) of this section, as applicable;
- (2) The State requests that EPA review its determination; and
- (3) EPA approves the State determination.

(b) The Director may grant a non-waste determination for hazardous secondary material which is reclaimed in a continuous industrial process if the applicant demonstrates that the hazardous secondary material is a part of the production process and is not discarded. The determination will be based on whether the hazardous secondary material is legitimately recycled as specified in § 260.43 and on the following criteria:

- (1) The extent that the management of the hazardous secondary material is part of the continuous primary production process and is not waste treatment;
- (2) Whether the capacity of the production process would use the hazardous secondary material in a reasonable time frame and ensure that the hazardous secondary material will not be abandoned (for example, based on past practices, market factors, the nature of the hazardous secondary material, or any contractual arrangements);
- (3) Whether the hazardous constituents in the hazardous secondary material are reclaimed

rather than released to the air, water or land at significantly higher levels from either a statistical or from a health and environmental risk perspective than would otherwise be released by the production process; and

(4) Other relevant factors that demonstrate the hazardous secondary material is not discarded, including why the hazardous secondary material cannot meet, or should not have to meet, the conditions of an exclusion under § 261.2 or § 261.4 of this rule.

(c) The Director may grant a non-waste determination for hazardous secondary material which is indistinguishable in all relevant aspects from a product or intermediate if the applicant demonstrates that the hazardous secondary material is comparable to a product or intermediate and is not discarded. The determination will be based on whether the hazardous secondary material is legitimately recycled as specified in § 260.43 and on the following criteria:

(1) Whether market participants treat the hazardous secondary material as a product or intermediate rather than a waste (for example, based on the current positive value of the hazardous secondary material, stability of demand, or any contractual arrangements);

(2) Whether the chemical and physical identity of the hazardous secondary material is comparable to commercial products or intermediates;

(3) Whether the capacity of the market would use the hazardous secondary material in a reasonable time frame and ensure that the hazardous secondary material will not be abandoned (for example, based on past practices, market factors, the nature of the hazardous secondary material, or any contractual arrangements);

(4) Whether the hazardous constituents in the hazardous secondary material are reclaimed rather than released to the air, water or land at significantly higher levels from either a statistical or from a health and environmental risk perspective than would otherwise be released by the production process; and

(5) Other relevant factors that demonstrate the hazardous secondary material is not discarded, including why the hazardous secondary material cannot meet, or should not have to meet, the conditions of an exclusion under § 261.2 or § 261.4 of this rule.

§ 260.40 Additional regulation of certain hazardous waste recycling activities on a case-by-case basis

(a) The Director may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in § 261.6(a)(2)(iii) of this rule should be regulated under § 261.6 (b) and (c) of this rule. The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the Director will consider the following factors:

(1) The types of materials accumulated or stored and the amounts accumulated or stored;

(2) The method of accumulation or storage;

(3) The length of time the materials have been accumulated or stored before being reclaimed;

(4) Whether any contaminants are being released into the environment, or are likely to be so released; and

(5) Other relevant factors. The procedures for this decision are set forth in § 260.41 of this rule.

§ 260.41 Procedures for case-by-case regulation of hazardous waste recycling activities

The Director will use the following procedures when determining whether to regulate hazardous waste recycling activities described in § 261.6(a)(2)(iii) under the provisions of § 261.6 (b) and (c), rather than under the provisions of Subsection F of Section 266 of this rule.

(a) If a generator is accumulating the waste, the Director will issue a notice setting forth the factual basis for the decision and stating that the person must comply with the applicable requirements of subsections A, C, D, and E of Section 262 of this rule. The notice will become final within 30 days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the Director will hold a public hearing. The Director will provide notice of the hearing to the public and allow public participation at the hearing. The Director will issue a final order after the hearing stating whether or not compliance with Section 262 is required. The order becomes effective 30 days after service of the decision unless the Director specifies a later date or unless review by the Director is requested. The order may be appealed to the Director by any person who participated in the public hearing. The Director may choose to grant or to deny the appeal. Final Division action occurs when a final order is issued and Division review procedures are exhausted.

(b) If the person is accumulating the recyclable material as a storage facility, the notice will state that the person must obtain a permit in accordance with all applicable provisions of Section 270 of this rule, APC&EC Rule No. 8, and 40 CFR 124. The owner or operator of the facility must apply for a permit within no less than 60 days and no more than six months of notice, as specified in the notice. If the owner or operator of the facility wishes to challenge the Director's decision, he may do so in his permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit or on the notice of intent to deny the permit. The fact sheet accompanying the permit will specify the reasons for the Division's determination. The question of whether the Director's decision was proper will remain open for consideration during the public comment period discussed under 40 CFR 124.11 and in any subsequent hearing.

§ 260.42 Notification requirement for hazardous secondary materials.

(a) Facilities managing hazardous secondary materials under § 260.30, § 261.4 (a)(23), § 261.4 (a)(24), § 261.4 (a)(25), or § 261.4(a)(27) must send a notification prior to operating under the regulatory provision and by March 1 of each year thereafter to the Director using EPA Form 8700-12 that includes the following information:

- (1) The name, address, and EPA ID number (if applicable) of the facility;
- (2) The name and telephone number of a contact person;
- (3) The NAICS code of the facility;
- (4) The rule under which the hazardous secondary materials will be managed;
- (5) For reclaimers and intermediate facilities managing hazardous secondary materials in accordance with §261.4(a)(24) or (25), whether the reclaimer or intermediate facility has financial assurance (not applicable for persons managing hazardous secondary materials generated and reclaimed under the control of the generator);
- (6) When the facility began or expects to begin managing the hazardous secondary materials in accordance with the rule;
- (7) A list of hazardous secondary materials that will be managed according to the regulation

(reported as the EPA hazardous waste numbers that would apply if the hazardous secondary materials were managed as hazardous wastes);

(8) For each hazardous secondary material, whether the hazardous secondary material, or any portion thereof, will be managed in a land-based unit;

(9) The quantity of each hazardous secondary material to be managed annually; and

(10) The certification (included in EPA Form 8700-12) signed and dated by an authorized representative of the facility.

(b) If a facility managing hazardous secondary materials has submitted a notification, but then subsequently stops managing hazardous secondary materials in accordance with the rule (s) listed above, the facility must notify the Director within thirty (30) days using EPA Form 8700-12. For purposes of this section, a facility has stopped managing hazardous secondary materials if the facility no longer generates, manages and/or reclaims hazardous secondary materials under the rule(s) above and does not expect to manage any amount of hazardous secondary materials for at least 1 year.

§ 260.43 Legitimate recycling of hazardous secondary materials

(a) Recycling of hazardous secondary materials for the purpose of the exclusions or exemptions from the hazardous waste rules must be legitimate. Hazardous secondary material that is not legitimately recycled is discarded material and is a solid waste. In determining if their recycling is legitimate, persons must address all the requirements of this paragraph and must consider the requirements of paragraph (b) of this section.

(1) Legitimate recycling must involve a hazardous secondary material that provides a useful contribution to the recycling process or to a product or intermediate of the recycling process. The hazardous secondary material provides a useful contribution if it:

- (i) Contributes valuable ingredients to a product or intermediate; or
- (ii) Replaces a catalyst or carrier in the recycling process; or
- (iii) Is the source of a valuable constituent recovered in the recycling process; or
- (iv) Is recovered or regenerated by the recycling process; or
- (v) Is used as an effective substitute for a commercial product.

(2) The recycling process must produce a valuable product or intermediate. The product or intermediate is valuable if it is:

- (i) Sold to a third party; or
- (ii) Used by the recycler or the generator as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process.

(3) The generator and the recycler must manage the hazardous secondary material as a valuable commodity when it is under their control. Where there is an analogous raw material, the hazardous secondary material must be managed, at a minimum, in a manner consistent with the management of the raw material or in an equally protective manner. Where there is no analogous raw material, the hazardous secondary material must be contained. Hazardous secondary materials that are released to the environment and are not recovered immediately are discarded.

(4) The product of the recycling process must be comparable to a legitimate product or intermediate:

- (i) Where there is an analogous product or intermediate, the product of the

recycling process is comparable to a legitimate product or intermediate if:

(A) The product of the recycling process does not exhibit a hazardous characteristic (as defined in Section 261 Subsection C) that analogous products do not exhibit, and

(B) The concentrations of any hazardous constituents found in appendix VIII of Section 261 of this rule that are in the product or intermediate are at levels that are comparable to or lower than those found in analogous products or at levels that meet widely-recognized commodity standards and specifications, in the case where the commodity standards and specifications include levels that specifically address those hazardous constituents.

(ii) Where there is no analogous product, the product of the recycling process is comparable to a legitimate product or intermediate if:

(A) The product of the recycling process is a commodity that meets widely recognized commodity standards and specifications (e.g., commodity specification grades for common metals), or

(B) The hazardous secondary materials being recycled are returned to the original process or processes from which they were generated to be reused (e.g., closed loop recycling).

(iii) If the product of the recycling process has levels of hazardous constituents that are not comparable to or unable to be compared to a legitimate product or intermediate per paragraph (a)(4)(i) or (ii) of this section, the recycling still may be shown to be legitimate, if it meets the following specified requirements. The person performing the recycling must conduct the necessary assessment and prepare documentation showing why the recycling is, in fact, still legitimate. The recycling can be shown to be legitimate based on lack of exposure from toxics in the product, lack of the bioavailability of the toxics in the product, or other relevant considerations which show that the recycled product does not contain levels of hazardous constituents that pose a significant human health or environmental risk. The documentation must include a certification statement that the recycling is legitimate and must be maintained on-site for three years after the recycling operation has ceased. The person performing the recycling must notify the Director of this activity using EPA Form 8700-12.

(b) The following factor must be considered in making a determination as to the overall legitimacy of a specific recycling activity.

(1) The product of the recycling process does not:

(i) Contain significant concentrations of any hazardous constituents found in appendix VIII of section 261 that are not found in analogous products; or

(ii) Contain concentrations of hazardous constituents found in appendix VIII of section 261 at levels that are significantly elevated from those found in analogous products, or

(iii) Exhibit a hazardous characteristic (as defined in section 261 subsection C) that analogous products do not exhibit.

(2) In making a determination that a hazardous secondary material is legitimately recycled, persons must evaluate all factors and consider legitimacy as a whole. If, after careful evaluation of these considerations, the factor in this paragraph is not met, then this fact may be an indication that the material is not legitimately recycled. However, the factor

in this paragraph does not have to be met for the recycling to be considered legitimate. In evaluating the extent to which this factor is met and in determining whether a process that does not meet this factor is still legitimate, persons can consider exposure from toxics in the product, the bioavailability of the toxics in the product and other relevant considerations.

(c) [Reserved]

Section 261.

IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

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Subsection A -- General

§ 261.1 Purpose and scope

(a) Subsection A defines the terms “solid waste” and “hazardous waste”, identifies those wastes which are excluded from regulation under Sections 262 through 265, 268, and Section 270 of this rule and establishes special management requirements for hazardous waste produced by very small quantity generators and hazardous waste which is recycled.

(1) Subsection A defines the terms “solid waste” and “hazardous waste”, identifies those wastes which are excluded from regulation under Sections 262 through 266, 268 and 270 and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

(2) Subsection B sets forth the criteria used by EPA to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) Subsection C identifies characteristics of hazardous waste.

(4) Subsection D lists particular hazardous wastes.

(b)(1) The definition of solid waste contained in this section applies only to wastes that also are hazardous for purposes of the rules implementing subtitle C of RCRA. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled.

(2) This section identifies only some of the materials which are solid wastes and hazardous wastes under Sections 3007, 3013, and 7003 of RCRA. A material which is not defined as a solid waste in this section, or is not a hazardous waste identified or listed in this section, is still a solid waste and a hazardous waste for purposes of these sections if:

- (i) In the case of RCRA sections 3007 and 3013, EPA or the Division has reason to believe that the material may be a solid waste within the meaning of section 1004(27) of RCRA and a hazardous waste within the meaning of section 1004(5) of RCRA; or

- (ii) In the case of section 7003, the statutory elements are established.
- (c) For the purposes of §§ 261.2 and 261.6:
- (1) A “spent material” is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing;
 - (2) “Sludge” has the same meaning used in § 260.10 of this rule;
 - (3) A “by-product” is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public’s use and is ordinarily used in the form it is produced by the process.
 - (4) A material is “reclaimed” if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents. In addition, for purposes of § 261.4(a)(23) and (24), smelting, melting, and refining furnaces are considered to be solely engaged in metals reclamation if the metal recovery from the hazardous secondary materials meets the same requirements as those specified for metals recovery from hazardous waste found in § 266.100(d)(1) through (3) of this rule, and if the residuals meet the requirements specified in § 266.112 of this rule.
 - (5) A material is “used or reused” if it is either:
 - (i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or
 - (ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).
 - (6) “Scrap metal” is bits and pieces of metal parts (e.g.,) bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.
 - (7) A material is “recycled” if it is used, reused, or reclaimed.
 - (8) A material is “accumulated speculatively” if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that -- during the calendar year (commencing on January 1) -- the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. Materials must be placed in a storage unit with a label indicating the first date that the material began to be accumulated. If placing a label on the storage unit is not practicable, the accumulation period must be documented through an inventory log or other appropriate method. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from rule under § 261.4(c) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once

they are removed from accumulation for recycling, however.

(9) “Excluded scrap metal” is processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal.

(10) “Processed scrap metal” is scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated. (Note: shredded circuit boards being sent for recycling are not considered processed scrap metal. They are covered under the exclusion from the definition of solid waste for shredded circuit boards being recycled (§ 261.4(a)(14)).

(11) “Home scrap metal” is scrap metal as generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings.

(12) “Prompt scrap metal” is scrap metal as generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Prompt scrap is also known as industrial or new scrap metal.

§ 261.2 Definition of Solid Waste

(a)(1) A “solid waste” is any discarded material that is not excluded by § 261.4(a) or that is not excluded by variance granted under §§ 260.30 and 260.31.

(2) A “discarded material” is any material which is:

(i) “Abandoned”, as explained in paragraph (b) of this section; or

(ii) [Reserved]

(iii) Considered “inherently waste-like”, as explained in paragraph (d) of this section; or

(iv) A “military munition” identified as a solid waste in § 266.202.

(b) Materials are solid waste if they are “abandoned” by being:

(1) Disposed of; or

(2) Burned or incinerated; or

(3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated; or

(4) Sham recycled, as explained in paragraph (g) of this section.

(c) Materials are solid wastes if they are “recycled” -- or accumulated, stored, or treated before recycling -- as specified in paragraphs (c)(1) through (4) of this section.

(1) “Used in a manner constituting disposal”.

(i) Materials noted with an “X” in Column 1 of Table 1 are solid wastes when they are:

(A) Applied to or placed on the land in a manner that constitutes disposal; or

(B) Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

(ii) However, commercial chemical products listed in § 261.33 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(2) “Burning for energy recovery”. (i) Materials noted with an “X” in column 2 of Table 1

are solid wastes when they are:

(A) Burned to recover energy;

(B) Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

(ii) However, commercial chemical products listed in § 261.33 are not solid wastes if they are themselves fuels.

(3) *Reclaimed*. Materials noted with a “-” in column 3 of Table 1 are not solid wastes when reclaimed. Materials noted with a “X” in column 3 of Table 1 are solid wastes when reclaimed unless they meet the requirements of § 261.4(a)(17), or 261.4(a)(23), 261.4(a)(24) or 261.4(a)(27)).

(4) “Accumulated speculatively”. Materials noted with an “X” in column 4 of Table 1 are solid wastes when accumulated speculatively.

Table 1

| | Use constituting disposal (§261.2(c)(1)) | Energy recovery/fuel (§261.2(c)(2)) | Reclamation (§261.2(c)(3)), except as provided in §§261.4(a)(17), 261.4(a)(23), 261.4(a)(24) or 261.4(a)(27) | Speculative accumulation (§261.2(c)(4)) |
|--|--|---|---|---|
| | 1 | 2 | 3 | 4 |
| Spent Materials | (*) | (*) | (*) | (*) |
| Sludges (listed in 40 CFR Part 261.31 or 261.32) | (*) | (*) | (*) | (*) |
| Sludges exhibiting a characteristic of hazardous waste | (*) | (*) | - | (*) |
| By-products (listed in 40 CFR 261.31 or 261.32) | (*) | (*) | (*) | (*) |
| By-products exhibiting a characteristic of hazardous waste | (*) | (*) | - | (*) |
| Commercial chemical products listed in 40 CFR 261.33 | (*) | (*) | - | - |
| Scrap metal that is not excluded under 40 CFR | (*) | (*) | (*) | (*) |

| | | | | |
|--------------|--|--|--|--|
| 261.4(a)(13) | | | | |
|--------------|--|--|--|--|

Note: The terms “spent materials”, “sludges”, “by-product”, “scrap metal”, and “processed scrap metal” are defined in § 261.1.

(d) “Inherently waste-like materials”. The following materials are solid wastes when they are recycled in any manner:

(1) Hazardous Waste Nos. F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028.

(2) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in subsections C or D of this section, except for brominated material that meets the following criteria:

- (i) The material must contain a bromine concentration of at least 45%; and
- (ii) The material must contain less than a total of 1% of toxic organic compounds listed in Appendix VIII of this section; and
- (iii) The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping).

(3) The Commission will use the following criteria to add wastes to that list:

- (i)(A) The materials are ordinarily disposed of, burned, or incinerated; or
- (B) The materials contain toxic constituents listed in Appendix VIII of Section 261 and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and
- (ii) The material may pose a substantial hazard to human health and the environment when recycled.

(e) “Materials that are not solid waste when recycled”.

(1) Materials are not solid wastes when they can be shown to be recycled by being:

- (i) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or
- (ii) Used or reused as effective substitutes for commercial products; or
- (iii) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land. In cases where the materials are generated and reclaimed within the primary mineral processing industry, the conditions of the exclusion found at § 261.4(a)(17) apply rather than this paragraph.

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1)(i) through (iii) of this section):

- (i) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or
- (ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or
- (iii) Materials accumulated speculatively; or
- (iv) Materials listed in paragraphs (d)(1) and (d)(2) of this section.

(f) Documentation of claims that materials are not solid wastes or are conditionally exempt from

regulation. Respondents in actions to enforce rules implementing subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

(g) Sham recycling. A hazardous secondary material found to be sham recycled is considered discarded and a solid waste. Sham recycling is recycling that is not legitimate recycling as defined in § 260.43.

§ 261.3 Definition of Hazardous Waste

(a) A solid waste, as defined in § 261.2, is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in subsection C of this Section. However, any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under §261.4(b)(7) and any other solid waste exhibiting a characteristic of hazardous waste under subsection C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred, or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Toxicity Characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table 1 to §261.24 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

(ii) It is listed in subsection D of this section and has not been excluded from the lists in subsection D of this section under §§ 260.20 and 260.22 of this rule.

(iii) [Reserved]

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in subsection D of this section and has not been excluded from paragraph (a)(2) of this section under the provisions of §§ 260.20 and 260.22, paragraph (g) of this subsection, or paragraph (h) of this subsection; however, the following mixtures of solid wastes and hazardous wastes listed in subsection D of this section are not hazardous wastes (except by application of paragraph (a)(2)(i) or (ii) of this subsection) if the generator can demonstrate that the mixture consists of wastewater, the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of waste water) and;

(A) One or more of the following solvents listed in § 261.31 – benzene, carbon tetrachloride, tetrachloroethylene, trichloroethylene – or the scrubber waters derived from the combustion of these spent solvents- provided, that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the

headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million, OR the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR Parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 1 part per million on an average weekly basis. Any facility that uses benzene as a solvent and claims this exemption must use an aerated biological wastewater treatment system and must use only lined surface impoundments or tanks prior to secondary clarification in the wastewater treatment system. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Director, as the context requires, or an authorized representative ("Director" as defined in § 270.2 of this rule). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(B) One or more of the following spent solvents listed in § 261.31-methylene chloride, 1,1,1-trichloroethane, chloro- benzene, o- dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents, 2-ethoxyethanol, or the scrubber waters derived from the combustion of these spent solvents—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million, OR the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 25 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Director, or an authorized representative ("Director" as defined in § 270.2). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that,

the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(C) One of the following wastes listed in § 261.32, provided that the wastes are discharged to the refinery oil recovery sewer before primary oil/water/solids separation—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050), crude oil storage tank sediment from petroleum refining operations (EPA Hazardous Waste No. K169), clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (EPA Hazardous Waste No. K170), spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and spent hydrorefining catalyst (EPA Hazardous Waste No. K172); or

(D) A discarded hazardous waste, commercial chemical product, or chemical intermediate listed in §§ 261.31 through 261.33, arising from de minimis losses of these materials. For purposes of this paragraph (a)(2)(iv)(D), de minimis losses are inadvertent releases to a wastewater treatment system, including those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing. Any manufacturing facility that claims an exemption for de minimis quantities of wastes listed in §§ 261.31 through 261.32, or any nonmanufacturing facility that claims an exemption for de minimis quantities of wastes listed in subsection D of this section must either have eliminated the discharge of wastewaters or have included in its Clean Water Act permit application or submission to its pretreatment control authority the constituents for which each waste was listed (in § 261 appendix VII) of this section; and the constituents in the table “Treatment Standards for Hazardous Wastes” in § 268.40 of this rule for which each waste has a treatment standard (i.e., Land Disposal Restriction constituents). A facility is eligible to claim the exemption once the permit writer or control authority has been notified of possible de minimis releases via the Clean Water Act permit application or the pretreatment control authority submission. A copy of the Clean Water permit application or the submission to the pretreatment control authority must be placed in the facility’s on-site files; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subsection D of this section, provided, that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility’s wastewater treatment or pre-treatment system or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility’s wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation; or

(F) One or more of the following wastes listed in § 261.32 — wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157) — provided that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that cannot be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilution into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight OR the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 5 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file copy of their sampling and analysis plan with the Director, or an authorized representative ("Director" as defined in § 270.2). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(G) Wastewaters derived-from the treatment of one or more of the following wastes listed in § 261.32 — organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156). — provided that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter OR the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 5 milligrams per liter on an average weekly basis. Facilities that choose to measure concentration levels must file copy of their sampling and analysis plan with the Director, or an authorized representative ("Director" as defined in § 270.2). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring

option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected.

(v) Rebuttable presumption for used oil. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subsection D of Section 261 of this rule. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Section 261 of this rule).

(A) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

(B) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(b) A solid waste which is not excluded from rule under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in subsection D of this section, when the waste first meets the listing description set forth in subsection D of this section.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subsection D is first added to the solid waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subsection C of this section.

(c) Unless and until it meets the criteria of paragraph (d) of this section:

(1) A hazardous waste will remain a hazardous waste.

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii), (g) or (h) of this subsection, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

(A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor

from the iron and steel industry (SIC Codes 331 and 332).

(B) Waste from burning any of the materials exempted from regulation by § 261.6(a)(3)(iii) and (iv).

(C)(1) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062 or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces (as defined in paragraphs (6), (7), and (13) of the definition for “Industrial furnace” in § 260.10), that are disposed in subtitle D units, provided that these residues meet the generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility’s waste analysis plan or a generator’s self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

*Constituent Maximum for any single
composite sample-TCLP (mg/l)*

Generic exclusion levels for K061 and K062 nonwastewater HTMR residues

| | |
|------------------|-------|
| Antimony | 0.10 |
| Arsenic | 0.50 |
| Barium | 7.6 |
| Beryllium | 0.010 |
| Cadmium | 0.050 |
| Chromium (total) | 0.33 |
| Lead | 0.15 |
| Mercury | 0.009 |
| Nickel | 1.0 |
| Selenium | 0.16 |
| Silver | 0.30 |
| Thallium | 0.020 |
| Zinc | 70 |

**Generic exclusion levels for F006 nonwastewater
HTMR residues**

| | |
|-------------------------|-------|
| Antimony | 0.10 |
| Arsenic | 0.50 |
| Barium | 7.6 |
| Beryllium | 0.010 |
| Cadmium | 0.050 |
| Chromium (total) | 0.33 |
| Cyanide (total) (mg/kg) | 1.8 |
| Lead | 0.15 |
| Mercury | 0.009 |

| | |
|----------|-------|
| Nickel | 1.0 |
| Selenium | 0.16 |
| Silver | 0.30 |
| Thallium | 0.020 |
| Zinc | 70 |

(2) A one-time notification and certification must be placed in the facility's files and sent to the Division for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to subtitle D units. The notification and certification that is placed in the generators or treaters files must be updated if the process or operation generating the waste changes and/or if the subtitle D unit receiving the waste changes. However, the generator or treater need only notify the Division on an annual basis if such changes occur. Such notification and certification should be sent to the Division by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the subtitle D unit receiving the waste shipments; the EPA Hazardous Waste Number(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

(D) Biological treatment sludge from the treatment of one of the following wastes listed in § 261.32-*organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates)* from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), and wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).

(E) Catalyst inert support media separated from one of the following wastes listed in § 261.32 — Spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and Spent hydrotreating catalyst (EPA Hazardous Waste No. K172).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subsection C of this section. (However, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of section 268, even if they no longer exhibit a characteristic at the point of land disposal.)

(2) In the case of a waste which is a listed waste under subsection D of this section, contains a waste listed under subsection D of this section or is derived from a waste listed in subsection D of this section, it also has been excluded from paragraph (c) under §§ 260.20 and 260.22 of this rule.

(e) *[Reserved]*

(f) Notwithstanding paragraphs (a) through (d) of this section and provided the debris as defined in Section 268 of this rule does not exhibit a characteristic identified at subsection C of this section, the following materials are not subject to regulation under sections 260, 261 to 266, 268, or 270:

(1) Hazardous debris as defined in Section 268 of this rule that has been treated using one of the required extraction or destruction technologies specified in Table 1 of § 268.45 of this rule; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements; or

(2) Debris as defined in Section 268 of this rule that the Director, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

(g)(1) A hazardous waste that is listed in subsection D of this section solely because it exhibits one or more characteristics of ignitability as defined under § 261.21 of this rule, corrosivity as defined under § 261.22, or reactivity as defined under § 261.23 is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in subsection C of this section.

(2) The exclusion described in paragraph (g)(1) of this subsection also pertains to:

(i) Any mixture of a solid waste and a hazardous waste listed in subsection D of this Section solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) of this subsection; and

(ii) Any solid waste generated from treating, storing, or disposing of a hazardous waste listed in subsection D of this Section solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (c)(2)(i) of this section.

(3) Wastes excluded under this section are subject to Section 268 of this rule (as applicable), even if they no longer exhibit a characteristic at the point of land disposal.

(4) Any mixture of a solid waste excluded from regulation under § 261.4(b)(7) and a hazardous waste listed in subsection D of this section solely because it exhibits one or more of the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) of this section is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in subsection C of this section for which the hazardous waste listed in subsection D of this section was listed.

(h)(1) Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of Section 266, Subsection N (“eligible radioactive mixed waste”) of this rule.

(2) The exemption described in paragraph (h)(1) of this subsection also pertains to:

(i) Any mixture of a solid waste and an eligible radioactive mixed waste; and

(ii) Any solid waste generated from treating, storing, or disposing of an eligible radioactive mixed waste.

(3) Waste exempted under this section must meet the eligibility criteria and specified conditions in § 266.225 and § 266.230 (for storage and treatment) and in § 266.310 and § 266.315 (for transportation and disposal). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

§ 261.4 Exclusions

(a) Materials which are not solid wastes. The following materials are not solid wastes for the purpose of this section:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. “Domestic sewage” means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under section 402 of the Clean Water Act, as amended.

Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.

(3) Irrigation return flows.

(4) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as section of the extraction process.

(6) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in § 261.1(c) of this rule.

(7) Spent sulfuric acid used to produce virgin sulfuric acid, provided it is not accumulated speculatively as defined in § 261.1(c) of this rule.

(8) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(i) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(ii) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(iii) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and

(iv) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(9)(i) Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose; and

(ii) Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

(iii) Prior to reuse, the wood preserving wastewaters and spent wood preserving solutions described in paragraphs (a)(9)(i) and (a)(9)(ii) of this section, so long as they meet all of the following conditions:

(A) The wood preserving wastewaters and spent wood preserving solutions are reused on-site at water borne plants in the production process for their original intended purpose;

(B) Prior to reuse, the wastewaters and spent wood preserving solutions are managed to prevent release to either land or groundwater or both;

(C) Any unit used to manage wastewaters and/or spent wood preserving solutions prior to reuse can be visually or otherwise determined to prevent such releases;

(D) Any drip pad used to manage the wastewaters and/or spent wood preserving solutions prior to reuse complies with the standards in Section 265, subsection W of

this rule, regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste; and

(E) Prior to operating pursuant to this exclusion, the plant owner or operator submits to the Director a one-time notification stating that the plant intends to claim the exclusion, giving the date on which the plant intends to begin operating under the exclusion, and containing the following language: “I have read the applicable rule establishing an exclusion for wood preserving wastewaters and spent wood preserving solutions and understand it requires me to comply at all times with the conditions set out in the rule.” The plant must maintain a copy of that document in its on-site records until the closure of the facility. The exclusion applies only so long as the plant meets all of the conditions. If the plant goes out of compliance with any condition, it may apply to the Director for reinstatement. The Director may reinstate the exclusion upon finding that the plant has returned to compliance with all conditions and that violations are not likely to recur.

(10) EPA Hazardous Waste Nos. K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke by-products processes that are hazardous only because they exhibit the Toxicity Characteristic (TC) specified in § 261.24 of this section when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or mixed with coal tar prior to the tar’s sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(11) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(12) (i) Oil-bearing hazardous secondary materials (i.e., sludges, byproducts, or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911—including, but not limited to, distillation, catalytic cracking, fractionation, or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this paragraph, provided that the coke product also does not exhibit a characteristic of hazardous waste. Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent directly to another petroleum refinery, and still be excluded under this provision. Except as provided in paragraph (a)(12)(ii) of this section, oil-bearing hazardous secondary materials generated elsewhere in the petroleum industry (i.e., from sources other than petroleum refineries) are not excluded under this section. Residuals generated from processing or recycling materials excluded under this paragraph (a)(12)(i), where such materials as generated would have otherwise met a listing under subsection D of this section, are designated as F037 listed wastes when disposed of or intended for disposal.

(ii) Recovered oil that is recycled in the same manner and with the same conditions as described in paragraph (a)(12)(i) of this section. Recovered oil is oil that has been reclaimed from secondary materials (including wastewater) generated from normal petroleum industry practices, including refining, exploration and production, bulk storage, and transportation incident thereto (SIC codes 1311, 1321, 1381, 1382, 1389,

2911, 4612, 4613, 4922, 4923, 4789, 5171, and 5172.) Recovered oil does not include oil-bearing hazardous wastes listed in subsection D of this section; however, oil recovered from such wastes may be considered recovered oil. Recovered oil does not include used oil as defined in § 279.1 of this rule.

(13) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal) being recycled.

(14) Shredded circuit boards being recycled provided that they are:

(i) Stored in containers sufficient to prevent a release to the environment prior to recovery; and

(ii) Free of mercury switches, mercury relays and nickel-cadmium batteries and lithium batteries.

(15) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e). The exemption applies only to combustion at the mill generating the condensates.

(16) [Reserved]

(17) Spent materials (as defined in §261.1) (other than hazardous wastes listed in subsection D of this section) generated within the primary mineral processing industry from which minerals, acids, cyanide, water or other values are recovered by mineral processing or by beneficiation, provided that:

(i) The spent material is legitimately recycled to recover minerals, acids, cyanide, water or other values;

(ii) The spent material is not accumulated speculatively;

(iii) Except as provided in paragraph (a)(15)(iv) of this section, the spent material is stored in tanks, containers, or buildings meeting the following minimum integrity standards: a building must be an engineered structure with a floor, walls, and a roof all of which are made of non-earthen materials providing structural support (except smelter buildings may have partially earthen floors provided the spent material is stored on the non-earthen portion), and have a roof suitable for diverting rainwater away from the foundation; a tank must be free standing, not be a surface impoundment (as defined in § 260.10 of this rule), and be manufactured of a material suitable for containment of its contents; a container must be free standing and be manufactured of a material suitable for containment of its contents. If tanks or containers contain any particulate which may be subject to wind dispersal, the owner/operator must operate these units in a manner which controls fugitive dust. Tanks, containers, and buildings must be designed, constructed and operated to prevent significant releases to the environment of these materials.

(iv) The Director may make a site-specific determination, after public review and comment, that only solid mineral processing spent materials may be placed on pads, rather than in tanks, containers, or buildings. Solid mineral processing spent materials do not contain any free liquid. The decision-maker must affirm that pads are designed, constructed and operated to prevent significant releases of the spent material into the environment. Pads must provide the same degree of containment afforded by the non-RCRA tanks, containers and buildings eligible for exclusion.

(A) The decision-maker must also consider if storage on pads poses the potential for significant releases via groundwater, surface water, and air exposure pathways.

Factors to be considered for assessing the groundwater, surface water, air exposure pathways are: the volume and physical and chemical properties of the spent material, including its potential for migration off the pad; the potential for human or environmental exposure to hazardous constituents migrating from the pad via each exposure pathway, and the possibility and extent of harm to human and environmental receptors via each exposure pathway.

(B) Pads must meet the following minimum standards: be designed of non-earthen material that is compatible with the chemical nature of the mineral processing spent material, capable of withstanding physical stresses associated with placement and removal, have run on/runoff controls, be operated in a manner which controls fugitive dust, and have integrity assurance through inspections and maintenance programs.

(C) Before making a determination under this paragraph, the Director must provide notice and the opportunity for comment to all persons potentially interested in the determination. This can be accomplished by placing notice of this action in major local newspapers, or broadcasting notice over local radio stations.

(v) The owner or operator provides a notice to the Director, identifying the following information: the types of materials to be recycled; the type and location of the storage units and recycling processes; and the annual quantities expected to be placed in non-land-based units. This notification must be updated when there is a change in the type of materials recycled or the location of the recycling process.

(vi) For purposes of paragraph (b)(7) of this section, mineral processing spent materials must be the result of mineral processing and may not include any listed hazardous wastes. Listed hazardous wastes and characteristic hazardous wastes generated by non-mineral processing industries are not eligible for the conditional exclusion from the definition of solid waste.

(18) Petrochemicals recovered oil from an associated organic chemical manufacturing facility, where the oil is to be inserted into the petroleum refining process (SIC code 2911) along with normal petroleum refinery process streams, provided:

(i) The oil is hazardous only because it exhibits the characteristic of ignitability (as defined in § 261.21) and/or toxicity for benzene (§ 261.24, waste code D018); and

(ii) The oil generated by the organic chemical manufacturing facility is not placed on the land, or speculatively accumulated before being recycled into the petroleum refining process. An “associated organic chemical manufacturing facility” is a facility where the primary SIC code is 2869, but where operations may also include SIC codes 2821, 2822, and 2865; and is physically co-located with a petroleum refinery; and where the petroleum refinery to which the oil being recycled is returned also provides hydrocarbon feedstocks to the organic chemical manufacturing facility. “Petrochemical recovered oil” is oil that has been reclaimed from secondary materials (i.e., sludges, byproducts, or spent materials, including wastewater) from normal organic chemical manufacturing operations, as well as oil recovered from organic chemical manufacturing processes.

(19) Spent caustic solutions from petroleum refining liquid treating processes used as a feedstock to produce cresylic or naphthenic acid unless the material is placed on the land, or accumulated speculatively as defined in § 261.1(c).

(20) Hazardous secondary materials used to make zinc fertilizers, provided that the following conditions specified are satisfied:

(i) Hazardous secondary materials used to make zinc micronutrient fertilizers must not be accumulated speculatively, as defined in § 261.1(c)(8).

(ii) Generators and intermediate handlers of zinc-bearing hazardous secondary materials that are to be incorporated into zinc fertilizers must:

(A) Submit a one-time notice to the Regional Administrator or State Director in whose jurisdiction the exclusion is being claimed, which contains the name, address and EPA ID number of the generator or intermediate handler facility, provides a brief description of the secondary material that will be subject to the exclusion, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph (a)(20).

(B) Store the excluded secondary material in tanks, containers, or buildings that are constructed and maintained in a way that prevents releases of the secondary materials into the environment. At a minimum, any building used for this purpose must be an engineered structure made of non-earthen materials that provide structural support, and must have a floor, walls and a roof that prevent wind dispersal and contact with rainwater. Tanks used for this purpose must be structurally sound and, if outdoors, must have roofs or covers that prevent contact with wind and rain. Containers used for this purpose must be kept closed except when it is necessary to add or remove material, and must be in sound condition. Containers that are stored outdoors must be managed within storage areas that:

- (1) have containment structures or systems sufficiently impervious to contain leaks, spills and accumulated precipitation; and
- (2) provide for effective drainage and removal of leaks, spills and accumulated precipitation; and
- (3) prevent run-on into the containment system.

(C) With each off-site shipment of excluded hazardous secondary materials, provide written notice to the receiving facility that the material is subject to the conditions of this paragraph (a)(20).

(D) Maintain at the generator's or intermediate handlers's facility for no less than three years records of all shipments of excluded hazardous secondary materials. For each shipment these records must at a minimum contain the following information:

- (1) Name of the transporter and date of the shipment;
- (2) Name and address of the facility that received the excluded material, and documentation confirming receipt of the shipment; and
- (3) Type and quantity of excluded secondary material in each shipment.

(iii) Manufacturers of zinc fertilizers or zinc fertilizer ingredients made from excluded hazardous secondary materials must:

(A) Store excluded hazardous secondary materials in accordance with the storage requirements for generators and intermediate handlers, as specified in paragraph (a)(20)(ii)(B) of this section.

(B) Submit a one-time notification to the Director that, at a minimum, specifies the name, address and EPA ID number of the manufacturing facility, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph (a)(20).

(C) Maintain for a minimum of three years records of all shipments of excluded hazardous secondary materials received by the manufacturer, which must at a

minimum identify for each shipment the name and address of the generating facility, name of transporter and date the materials were received, the quantity received, and a brief description of the industrial process that generated the material.

(D) Submit to the Director an annual report that identifies the total quantities of all excluded hazardous secondary materials that were used to manufacture zinc fertilizers or zinc fertilizer ingredients in the previous year, the name and address of each generating facility, and the industrial process(s) from which they were generated.

(iv) Nothing in this section preempts, overrides or otherwise negates the provision in § 262.11 of this rule, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

(v) Interim status and permitted storage units that have been used to store only zinc-bearing hazardous wastes prior to the submission of the one-time notice described in paragraph (a)(20)(ii)(A) of this section, and that afterward will be used only to store hazardous secondary materials excluded under this paragraph, are not subject to the closure requirements of Sections 264 and 265 of this rule.

(21) Zinc fertilizers made from hazardous wastes, or hazardous secondary materials that are excluded under paragraph (a)(20) of this section, provided that:

(i) The fertilizers meet the following contaminant limits:

(A) For metal contaminants:

| Constituent | Maximum Allowable Total Concentration in Fertilizer, per Unit(1%) of Zinc (ppm) |
|-------------|---|
| Arsenic | 0.3 |
| Cadmium | 1.4 |
| Chromium | 0.6 |
| Lead | 2.8 |
| Mercury | 0.3 |

(B) For dioxin contaminants the fertilizer must contain no more than eight (8) parts per trillion of dioxin, measured as toxic equivalent (TEQ).

(ii) The manufacturer performs sampling and analysis of the fertilizer product to determine compliance with the contaminant limits for metals no less than every six months, and for dioxins no less than every twelve months. Testing must also be performed whenever changes occur to manufacturing processes or ingredients that could significantly affect the amounts of contaminants in the fertilizer product. The manufacturer may use any reliable analytical method to demonstrate that no constituent of concern is present in the product at concentrations above the applicable limits. It is the responsibility of the manufacturer to ensure that the sampling and analysis are unbiased, precise, and representative of the product(s) introduced into commerce.

(iii) The manufacturer maintains for no less than three years records of all sampling and analyses performed for purposes of determining compliance with the requirements of paragraph (a)(21)(ii) of this section. Such records must at a minimum include:

(A) The dates and times product samples were taken, and the dates the samples were analyzed;

(B) The names and qualifications of the person(s) taking the samples;

- (C) A description of the methods and equipment used to take the samples;
- (D) The name and address of the laboratory facility at which analyses of the samples were performed;
- (E) A description of the analytical methods used, including any cleanup and sample preparation methods; and
- (F) All laboratory analytical results used to determine compliance with the contaminant limits specified in this paragraph (a)(21).

(22) Used cathode ray tubes (CRTs)

(i) Used, intact CRTs as defined in § 260.10 of this rule are not solid wastes within the United States unless they are disposed, or unless they are speculatively accumulated as defined in § 261.1(c)(8) by CRT collectors or glass processors.

(ii) Used, intact CRTs as defined in § 260.10 of this rule are not solid wastes when exported for recycling provided that they meet the requirements of Sec. 261.40.

(iii) Used, broken CRTs as defined in § 260.10 of this rule are not solid wastes provided that they meet the requirements of § 261.39.

(iv) Glass removed from CRTs is not a solid waste provided that it meets the requirements of § 261.39(c).

(23) Hazardous secondary material generated and legitimately reclaimed within the United States or its territories and under the control of the generator, provided that the material complies with paragraphs (a)(23)(i) and (ii) of this section:

(i)(A) The hazardous secondary material is generated and reclaimed at the generating facility (for purposes of this definition, generating facility means all contiguous property owned, leased, or otherwise controlled by the hazardous secondary material generator); or

(B) The hazardous secondary material is generated and reclaimed at different facilities, if the reclaiming facility is controlled by the generator or if both the generating facility and the reclaiming facility are controlled by a person as defined in § 260.10 of this rule, and if the generator provides one of the following certifications: “on behalf of [insert generator facility name], I certify that this facility will send the indicated hazardous secondary material to [insert reclaimer facility name], which is controlled by [insert generator facility name] and that [insert name of either facility] has acknowledged full responsibility for the safe management of the hazardous secondary material,” or “on behalf of [insert generator facility name], I certify that this facility will send the indicated hazardous secondary material to [insert reclaimer facility name], that both facilities are under common control, and that [insert name of either facility] has acknowledged full responsibility for the safe management of the hazardous secondary material.” For purposes of this paragraph, “control” means the power to direct the policies of the facility, whether by the ownership of stock, voting rights, or otherwise, except that contractors who operate facilities on behalf of a different person as defined in § 260.10 shall not be deemed to “control” such facilities. The generating and receiving facilities must both maintain at their facilities for no less than three years records of hazardous secondary materials sent or received under this exclusion. In both cases, the records must contain the name of the transporter, the date of the shipment, and the type and quantity of the hazardous secondary material shipped or received under the exclusion. These requirements may be satisfied by routine

business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations); or

(C) The hazardous secondary material is generated pursuant to a written contract between a tolling contractor and a toll manufacturer and is reclaimed by the tolling contractor, if the tolling contractor certifies the following: “On behalf of [insert tolling contractor name], I certify that [insert tolling contractor name] has a written contract with [insert toll manufacturer name] to manufacture [insert name of product or intermediate] which is made from specified unused materials, and that [insert tolling contractor name] will reclaim the hazardous secondary materials generated during this manufacture. On behalf of [insert tolling contractor name], I also certify that [insert tolling contractor name] retains ownership of, and responsibility for, the hazardous secondary materials that are generated during the course of the manufacture, including any releases of hazardous secondary materials that occur during the manufacturing process”. The tolling contractor must maintain at its facility for no less than three years records of hazardous secondary materials received pursuant to its written contract with the tolling manufacturer, and the tolling manufacturer must maintain at its facility for no less than three years records of hazardous secondary materials shipped pursuant to its written contract with the tolling contractor. In both cases, the records must contain the name of the transporter, the date of the shipment, and the type and quantity of the hazardous secondary material shipped or received pursuant to the written contract. These requirements may be satisfied by routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations). For purposes of this paragraph, tolling contractor means a person who arranges for the production of a product or intermediate made from specified unused materials through a written contract with a toll manufacturer. Toll manufacturer means a person who produces a product or intermediate made from specified unused materials pursuant to a written contract with a tolling contractor.

(ii)(A) The hazardous secondary material is contained as defined in § 260.10 of this rule. A hazardous secondary material released to the environment is discarded and a solid waste unless it is immediately recovered for the purpose of reclamation. Hazardous secondary material managed in a unit with leaks or other continuing or intermittent unpermitted releases is discarded and a solid waste.

(B) The hazardous secondary material is not speculatively accumulated, as defined in § 261.1(c)(8).

(C) Notice is provided as required by §260.42 of this rule.

(D) The material is not otherwise subject to material-specific management conditions under paragraph (a) of this section when reclaimed, and it is not a spent lead-acid battery (see § 266.80 and § 273.2 of this rule).

(E) Persons performing the recycling of hazardous secondary materials under this exclusion must maintain documentation of their legitimacy determination on-site. Documentation must be a written description of how the recycling meets all four factors in § 260.43(a). Documentation must be maintained for three years after the recycling operation has ceased.

(F) The emergency preparedness and response requirements found in subsection M of this Section are met.

(24) Hazardous secondary material that is generated and then transferred to a verified

reclamation facility for the purpose of reclamation is not a solid waste, provided that:

- (i) The material is not speculatively accumulated, as defined in § 261.1(c)(8);
- (ii) The material is not handled by any person or facility other than the hazardous secondary material generator, the transporter, an intermediate facility or a reclaimer, and, while in transport, is not stored for more than 10 days at a transfer facility, as defined in §260.10 of this rule, and is packaged according to applicable Department of Transportation regulations at 49 CFR parts 173, 178, and 179 while in transport;
- (iii) The material is not otherwise subject to material-specific management conditions under this paragraph (a) when reclaimed, and it is not a spent lead-acid battery (see §§ 266.80 and 273.2 of this rule);
- (iv) The reclamation of the material is legitimate, as specified under § 260.43 of this rule;
- (v) The hazardous secondary material generator satisfies all of the following conditions:

(A) The material must be contained as defined in § 260.10. A hazardous secondary material released to the environment is discarded and a solid waste unless it is immediately recovered for the purpose of recycling. Hazardous secondary material managed in a unit with leaks or other continuing releases is discarded and a solid waste.

(B) Prior to arranging for transport of hazardous secondary materials to a reclamation facility (or facilities) where the management of the hazardous secondary materials is not addressed under a RCRA Part B permit or interim status standards, the hazardous secondary material generator must make reasonable efforts to ensure that each reclaimer intends to properly and legitimately reclaim the hazardous secondary material and not discard it, and that each reclaimer will manage the hazardous secondary material in a manner that is protective of human health and the environment. If the hazardous secondary material will be passing through an intermediate facility where the management of the hazardous secondary materials is not addressed under a RCRA Part B permit or interim status standards, the hazardous secondary material generator must make contractual arrangements with the intermediate facility to ensure that the hazardous secondary material is sent to the reclamation facility identified by the hazardous secondary material generator, and the hazardous secondary material generator must perform reasonable efforts to ensure that the intermediate facility will manage the hazardous secondary material in a manner that is protective of human health and the environment. Reasonable efforts must be repeated at a minimum of every three years for the hazardous secondary material generator to claim the exclusion and to send the hazardous secondary materials to each reclaimer and any intermediate facility. In making these reasonable efforts, the generator may use any credible evidence available, including information gathered by the hazardous secondary material generator, provided by the reclaimer or intermediate facility, and/or provided by a third party. The hazardous secondary material generator must affirmatively answer all of the following questions for each reclamation facility and any intermediate facility:

- (1) Does the available information indicate that the reclamation process is legitimate pursuant to §260.43 of this chapter? In answering this question, the hazardous secondary material generator can rely on their existing knowledge of

the physical and chemical properties of the hazardous secondary material, as well as information from other sources (e.g., the reclamation facility, audit reports, etc.) about the reclamation process.

(2) Does the publicly available information indicate that the reclamation facility and any intermediate facility that is used by the hazardous secondary material generator notified the appropriate authorities of hazardous secondary materials reclamation activities pursuant to §260.42 of this rule and have they notified the appropriate authorities that the financial assurance condition is satisfied per paragraph (a)(24)(vi)(F) of this section? In answering these questions, the hazardous secondary material generator can rely on the available information documenting the reclamation facility's and any intermediate facility's compliance with the notification requirements per §260.42 of this rule, including the requirement in §260.42(a)(5) to notify DEQ whether the reclaimer or intermediate facility has financial assurance.

(3) Does publicly available information indicate that the reclamation facility or any intermediate facility that is used by the hazardous secondary material generator has not had any formal enforcement actions taken against the facility in the previous three years for violations of the RCRA hazardous waste rules and has not been classified as a significant non-complier with RCRA Subtitle C? In answering this question, the hazardous secondary material generator can rely on the publicly available information from EPA or the state. If the reclamation facility or any intermediate facility that is used by the hazardous secondary material generator has had a formal enforcement action taken against the facility in the previous three years for violations of the RCRA hazardous waste rules and has been classified as a significant non-complier with RCRA Subtitle C, does the hazardous secondary material generator have credible evidence that the facilities will manage the hazardous secondary materials properly? In answering this question, the hazardous secondary material generator can obtain additional information from EPA, the state, or the facility itself that the facility has addressed the violations, taken remedial steps to address the violations and prevent future violations, or that the violations are not relevant to the proper management of the hazardous secondary materials.

(4) Does the available information indicate that the reclamation facility and any intermediate facility that is used by the hazardous secondary material generator have the equipment and trained personnel to safely recycle the hazardous secondary material? In answering this question, the generator may rely on a description by the reclamation facility or by an independent third party of the equipment and trained personnel to be used to recycle the generator's hazardous secondary material.

(5) If residuals are generated from the reclamation of the excluded hazardous secondary materials, does the reclamation facility have the permits required (if any) to manage the residuals? If not, does the reclamation facility have a contract with an appropriately permitted facility to dispose of the residuals? If not, does the hazardous secondary material generator have credible evidence that the residuals will be managed in a manner that is

protective of human health and the environment? In answering these questions, the hazardous secondary material generator can rely on publicly available information from EPA or the state, or information provided by the facility itself.

(C) The hazardous secondary material generator must maintain for a minimum of three years documentation and certification that reasonable efforts were made for each reclamation facility and, if applicable, intermediate facility where the management of the hazardous secondary materials is not addressed under a RCRA Part B permit or interim status standards prior to transferring hazardous secondary material.

Documentation and certification must be made available upon request by a regulatory authority within 72 hours, or within a longer period of time as specified by the regulatory authority. The certification statement must:

(1) Include the printed name and official title of an authorized representative of the hazardous secondary material generator company, the authorized representative's signature, and the date signed;

(2) Incorporate the following language: "I hereby certify in good faith and to the best of my knowledge that, prior to arranging for transport of excluded hazardous secondary materials to [insert name(s) of reclamation facility and any intermediate facility], reasonable efforts were made in accordance with §261.4(a)(24)(v)(B) to ensure that the hazardous secondary materials would be recycled legitimately, and otherwise managed in a manner that is protective of human health and the environment, and that such efforts were based on current and accurate information."

(3) The type and quantity of hazardous secondary material in the shipment.

(D) The hazardous secondary material generator must maintain at the generating facility for no less than three (3) years records of all off-site shipments of hazardous secondary materials. For each shipment, these records must, at a minimum, contain the following information:

(1) Name of the transporter and date of the shipment;

(2) Name and address of each reclaimer and, if applicable, the name and address of each intermediate facility to which the hazardous secondary material was sent;

(3) The type and quantity of hazardous secondary material in the shipment.

(E) The hazardous secondary material generator must maintain at the generating facility for no less than three (3) years confirmations of receipt from each reclaimer and, if applicable, each intermediate facility for all off-site shipments of hazardous secondary materials. Confirmations of receipt must include the name and address of the reclaimer (or intermediate facility), the type and quantity of the hazardous secondary materials received and the date which the hazardous secondary materials were received. This requirement may be satisfied by routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations of receipt);

(F) The hazardous secondary material generator must comply with the emergency preparedness and response conditions in subsection M of this section.

(vi) Reclaimers of hazardous secondary material excluded from regulation under this

exclusion and intermediate facilities as defined in §260.10 of this rule satisfy all of the following conditions:

(A) The reclaimer and intermediate facility must maintain at its facility for no less than three (3) years records of all shipments of hazardous secondary material that were received at the facility and, if applicable, for all shipments of hazardous secondary materials that were received and subsequently sent off-site from the facility for further reclamation. For each shipment, these records must at a minimum contain the following information:

- (1) Name of the transporter and date of the shipment;
- (2) Name and address of the hazardous secondary material generator and, if applicable, the name and address of the reclaimer or intermediate facility which the hazardous secondary materials were received from;
- (3) The type and quantity of hazardous secondary material in the shipment; and
- (4) For hazardous secondary materials that, after being received by the reclaimer or intermediate facility, were subsequently transferred off-site for further reclamation, the name and address of the (subsequent) reclaimer and, if applicable, the name and address of each intermediate facility to which the hazardous secondary material was sent.

(B) The intermediate facility must send the hazardous secondary material to the reclaimer(s) designated by the hazardous secondary materials generator.

(C) The reclaimer and intermediate facility must send to the hazardous secondary material generator confirmations of receipt for all off-site shipments of hazardous secondary materials. Confirmations of receipt must include the name and address of the reclaimer (or intermediate facility), the type and quantity of the hazardous secondary materials received and the date which the hazardous secondary materials were received. This requirement may be satisfied by routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations of receipt).

(D) The reclaimer and intermediate facility must manage the hazardous secondary material in a manner that is at least as protective as that employed for analogous raw material and must be contained. An “analogous raw material” is a raw material for which a hazardous secondary material is a substitute and serves the same function and has similar physical and chemical properties as the hazardous secondary material.

(E) Any residuals that are generated from reclamation processes will be managed in a manner that is protective of human health and the environment. If any residuals exhibit a hazardous characteristic according to Subsection C of APC&EC Rule No. 23 Section 261, or if they themselves are specifically listed in Subsection D of APC&EC Rule No. 23 Section 261, such residuals are hazardous wastes and must be managed in accordance with the applicable requirements of APC&EC Rule No. 23 Sections 260 through 272.

(F) The reclaimer and intermediate facility have financial assurance as required under Subsection H of APC&EC Rule No. 23 Section 261.

(vii) In addition, all persons claiming the exclusion under this paragraph (a)(24) of this section provide notification as required under § 260.42 of this rule.

(25) Hazardous secondary material that is exported from the United States and reclaimed at

a reclamation facility located in a foreign country is not a solid waste, provided that the hazardous secondary material generator complies with the applicable requirements of paragraph (a)(24)(i)-(v) of this section (excepting paragraph (a)(24)(v)(B)(2) of this section for foreign reclaimers and foreign intermediate facilities), and that the hazardous secondary material generator also complies with the following requirements:

(i) Notify EPA of an intended export before the hazardous secondary material is scheduled to leave the United States. A complete notification must be submitted at least sixty (60) days before the initial shipment is intended to be shipped off-site. This notification may cover export activities extending over a twelve (12) month or lesser period. The notification must be in writing, signed by the hazardous secondary material generator, and include the following information:

(A) Name, mailing address, telephone number and EPA ID number (if applicable) of the hazardous secondary material generator;

(B) A description of the hazardous secondary material and the EPA hazardous waste number that would apply if the hazardous secondary material was managed as hazardous waste and the U.S. DOT proper shipping name, hazard class and ID number (UN/NA) for each hazardous secondary material as identified in 49 CFR parts 171 through 177;

(C) The estimated frequency or rate at which the hazardous secondary material is to be exported and the period of time over which the hazardous secondary material is to be exported;

(D) The estimated total quantity of hazardous secondary material;

(E) All points of entry to and departure from each foreign country through which the hazardous secondary material will pass;

(F) A description of the means by which each shipment of the hazardous secondary material will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.));

(G) A description of the manner in which the hazardous secondary material will be reclaimed in the country of import;

(H) The name and address of the reclaimer, any intermediate facility and any alternate reclaimer and intermediate facilities; and

(I) The name of any countries of transit through which the hazardous secondary material will be sent and a description of the approximate length of time it will remain in such countries and the nature of its handling while there (for purposes of this section, the terms "EPA Acknowledgement of Consent", "country of import" and "country of transit" are used as defined in 40 CFR 262.81 with the exception that the terms in this section refer to hazardous secondary materials, rather than hazardous waste):

(ii) Notifications must be submitted electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

(iii) Except for changes to the telephone number in paragraph (a)(25)(i)(A) of this section and decreases in the quantity of hazardous secondary material indicated pursuant to paragraph (a)(25)(i)(D) of this section, when the conditions specified on the original notification change (including any exceedance of the estimate of the quantity of hazardous secondary material specified in the original notification), the hazardous

secondary material generator must provide EPA with a written renotification of the change. The shipment cannot take place until consent of the country of import to the changes (except for changes to paragraph (a)(25)(i)(I) of this section and in the ports of entry to and departure from countries of transit pursuant to paragraphs (a)(25)(i)(E) of this section) has been obtained and the hazardous secondary material generator receives from EPA an EPA Acknowledgment of Consent reflecting the country of import's consent to the changes.

(iv) Upon request by EPA, the hazardous secondary material generator shall furnish to EPA any additional information which a country of import requests in order to respond to a notification.

(v) EPA will provide a complete notification to the country of import and any countries of transit. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of paragraph (a)(25)(i) of this section. Where a claim of confidentiality is asserted with respect to any notification information required by paragraph (a)(25)(i) of this section, EPA may find the notification not complete until any such claim is resolved in accordance with 40 CFR 260.2.

(vi) The export of hazardous secondary material under this paragraph (a)(25) is prohibited unless the country of import consents to the intended export. When the country of import consents in writing to the receipt of the hazardous secondary material, EPA will send an EPA Acknowledgment of Consent to the hazardous secondary material generator. Where the country of import objects to receipt of the hazardous secondary material or withdraws a prior consent, EPA will notify the hazardous secondary material generator in writing. EPA will also notify the hazardous secondary material generator of any responses from countries of transit.

(vii) For exports to OECD Member countries, the receiving country may respond to the notification using tacit consent. If no objection has been lodged by any country of import or countries of transit to a notification provided pursuant to paragraph (a)(25)(i) of this section within thirty (30) days after the date of issuance of the acknowledgement of receipt of notification by the competent authority of the country of import, the transboundary movement may commence. In such cases, EPA will send an EPA Acknowledgment of Consent to inform the hazardous secondary material generator that the country of import and any relevant countries of transit have not objected to the shipment, and are thus presumed to have consented tacitly. Tacit consent expires one (1) calendar year after the close of the thirty (30) day period; renotification and renewal of all consents is required for exports after that date.

(viii) A copy of the EPA Acknowledgment of Consent must accompany the shipment. The shipment must conform to the terms of the EPA Acknowledgment of Consent.

(ix) If a shipment cannot be delivered for any reason to the reclaimer, intermediate facility or the alternate reclaimer or alternate intermediate facility, the hazardous secondary material generator must re-notify EPA of a change in the conditions of the original notification to allow shipment to a new reclaimer in accordance with paragraph (iii) of this section and obtain another EPA Acknowledgment of Consent.

(x) Hazardous secondary material generators must keep a copy of each notification of intent to export and each EPA Acknowledgment of Consent for a period of three years following receipt of the EPA Acknowledgment of Consent. They may satisfy this

recordkeeping requirement by retaining electronically submitted notifications or electronically generated Acknowledgements in their account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that such copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No hazardous secondary material generator may be held liable for the inability to produce a notification or Acknowledgement for inspection under this section if they can demonstrate that the inability to produce such copies are due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system for which the hazardous secondary material generator bears no responsibility.

(xi) Hazardous secondary material generators must file with the Administrator no later than March 1 of each year, a report summarizing the types, quantities, frequency and ultimate destination of all hazardous secondary materials exported during the previous calendar year. Annual reports must be submitted electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. Such reports must include the following information:

(A) Name, mailing and site address, and EPA ID number (if applicable) of the hazardous secondary material generator;

(B) The calendar year covered by the report;

(C) The name and site address of each reclaimer and intermediate facility;

(D) By reclaimer and intermediate facility, for each hazardous secondary material exported, a description of the hazardous secondary material and the EPA hazardous waste number that would apply if the hazardous secondary material was managed as hazardous waste, the DOT hazard class, the name and U.S. EPA ID number (where applicable) for each transporter used, the total amount of hazardous secondary material shipped and the number of shipments pursuant to each notification;

(E) A certification signed by the hazardous secondary material generator which states: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

(xii) All persons claiming an exclusion under this paragraph (a)(25) must provide notification as required by §260.42 of this rule.

(26) "Solvent-contaminated wipes that are sent for cleaning and reuse are not solid wastes from the point of generation, provided that

(i) The solvent-contaminated wipes, when accumulated, stored, and transported, are contained in non-leaking, closed containers that are labeled "Excluded Solvent-Contaminated Wipes." The containers must be able to contain free liquids, should free liquids occur. During accumulation, a container is considered closed when there is complete contact between the fitted lid and the rim, except when it is necessary to add or remove solvent-contaminated wipes. When the container is full, or when the solvent-contaminated wipes are no longer being accumulated, or when the container is being transported, the container must be sealed with all lids properly and securely affixed to

the container and all openings tightly bound or closed sufficiently to prevent leaks and emissions;

(ii) The solvent-contaminated wipes may be accumulated by the generator for up to 180 days from the start date of accumulation for each container prior to being sent for cleaning;

(iii) At the point of being sent for cleaning on-site or at the point of being transported off-site for cleaning, the solvent-contaminated wipes must contain no free liquids as defined in § 260.10;

(iv) Free liquids removed from the solvent-contaminated wipes or from the container holding the wipes must be managed according to the applicable rules found in Rule 23 §§ 260 through 273;

(v) Generators must maintain at their site the following documentation:

(A) Name and address of the laundry or dry cleaner that is receiving the solvent-contaminated wipes;

(B) Documentation that the 180-day accumulation time limit in Rule 23 § 261.4(a)(26)(ii) is being met;

(C) Description of the process the generator is using to ensure the solvent-contaminated wipes contain no free liquids at the point of being laundered or dry cleaned on-site or at the point of being transported off-site for laundering or dry cleaning;

(vi) The solvent-contaminated wipes are sent to a laundry or dry cleaner whose discharge, if any, is regulated under §§ 301 and 402 or section 307 of the Clean Water Act.”

(27) Hazardous secondary material that is generated and then transferred to another person for the purpose of remanufacturing is not a solid waste, provided that:

(i) The hazardous secondary material consists of one or more of the following spent solvents: toluene, xylenes, ethylbenzene, 1,2,4-trimethylbenzene, chlorobenzene, n-hexane, cyclohexane, methyl tert-butyl ether, acetonitrile, chloroform, chloromethane, dichloromethane, methyl isobutyl ketone, NN-dimethylformamide, tetrahydrofuran, n-butyl alcohol, ethanol, and/or methanol;

(ii) The hazardous secondary material originated from using one or more of the solvents listed in paragraph (a)(27)(i) of this section in a commercial grade for reacting, extracting, purifying, or blending chemicals (or for rinsing out the process lines associated with these functions) in the pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and/or the paints and coatings manufacturing sectors (NAICS 325510).

(iii) The hazardous secondary material generator sends the hazardous secondary material spent solvents listed in paragraph (a)(27)(i) of this section to a remanufacturer in the pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and/or the paints and coatings manufacturing sectors (NAICS 325510).

(iv) After remanufacturing one or more of the solvents listed in paragraph (a)(27)(i) of this section, the use of the remanufactured solvent shall be limited to reacting, extracting, purifying, or blending chemicals (or for rinsing out the process lines

associated with these functions) in the pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and the paints and coatings manufacturing sectors (NAICS 325510) or to using them as ingredients in a product. These allowed uses correspond to chemical functional uses enumerated under the Chemical Data Reporting Rule of the Toxic Substances Control Act (40 CFR parts 704, 710-711), including Industrial Function Codes U015 (solvents consumed in a reaction to produce other chemicals) and U030 (solvents become part of the mixture);

(v) After remanufacturing one or more of the solvents listed in paragraph (a)(27)(i) of this section, the use of the remanufactured solvent does not involve cleaning or degreasing oil, grease, or similar material from textiles, glassware, metal surfaces, or other articles. (These disallowed continuing uses correspond to chemical functional uses in Industrial Function Code U029 under the Chemical Data Reporting Rule of the Toxics Substances Control Act.); and

(vi) Both the hazardous secondary material generator and the remanufacturer must:

(A) Notify EPA or the State Director, if the state is authorized for the program, and update the notification every two years per § 260.42;

(B) Develop and maintain an up-to-date remanufacturing plan which identifies:

(1) The name, address and EPA ID number of the generator(s) and the remanufacturer(s),

(2) The types and estimated annual volumes of spent solvents to be remanufactured,

(3) The processes and industry sectors that generate the spent solvents,

(4) The specific uses and industry sectors for the remanufactured solvents, and

(5) A certification from the remanufacturer stating “on behalf of [insert remanufacturer facility name], I certify that this facility is a remanufacturer under pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and/or the paints and coatings manufacturing sectors (NAICS 325510), and will accept the spent solvent(s) for the sole purpose of remanufacturing into commercial-grade solvent(s) that will be used for reacting, extracting, purifying, or blending chemicals (or for rinsing out the process lines associated with these functions) or for use as product ingredient(s). I also certify that the remanufacturing equipment, vents, and tanks are equipped with and are operating air emission controls in compliance with the appropriate Clean Air Act regulations under 40 CFR part 60, part 61 or part 63, or, absent such Clean Air Act standards for the particular operation or piece of equipment covered by the remanufacturing exclusion, are in compliance with the appropriate standards in APC&EC Rule No. 23 Section 261, Subsections AA (vents), BB (equipment) and CC (tank storage),”;

(C) Maintain records of shipments and confirmations of receipts for a period of three years from the dates of the shipments;

(D) Prior to remanufacturing, store the hazardous spent solvents in tanks or containers that meet technical standards found in Subsections I and J of APC&EC

Rule No. 23 Section 261, with the tanks and containers being labeled or otherwise having an immediately available record of the material being stored;

(E) During remanufacturing, and during storage of the hazardous secondary materials prior to remanufacturing, the remanufacturer certifies that the remanufacturing equipment, vents, and tanks are equipped with and are operating air emission controls in compliance with the appropriate Clean Air Act regulations under 40 CFR part 60, part 61 or part 63; or, absent such Clean Air Act standards for the particular operation or piece of equipment covered by the remanufacturing exclusion, are in compliance with the appropriate standards in APC&EC Rule No. 23 Section 261 Subsections AA (vents), BB (equipment) and CC (tank storage); and

(F) Meet the requirements prohibiting speculative accumulation per § 261.1(c)(8).

(b) Solid wastes which are not hazardous wastes. The following solid wastes are not hazardous wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused. "Household waste" means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subtitle, if such facility:

(i) Receives and burns only

(A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and

(B) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(ii) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(3) Mining overburden returned to the mine site.

(4) (i) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste, generated primarily from the combustion of coal or other fossil fuels, except as provided by § 266.112 of this rule for facilities that burn or process hazardous waste.

(ii) The following wastes generated primarily from processes that support the combustion of coal or other fossil fuels that are co-disposed with the wastes in paragraph (b)(4)(i) of this section, except as provided by § 266.112 of this rule for facilities that burn or process hazardous waste:

(A) Coal pile run-off. For purposes of paragraph (b)(4) of this section, coal pile run-off means any precipitation that drains off coal piles.

(B) Boiler cleaning solutions. For purposes of paragraph (b)(4) of this section,

boiler cleaning solutions means water solutions and chemical solutions used to clean the fire-side and water-side of the boiler.

(C) Boiler blowdown. For purposes of paragraph (b)(4) of this section, boiler blowdown means water purged from boilers used to generate steam.

(D) Process water treatment and demineralizer regeneration wastes. For purposes of paragraph (b)(4) of this section, process water treatment and demineralizer regeneration wastes means sludges, rinses, and spent resins generated from processes to remove dissolved gases, suspended solids, and dissolved chemical salts from combustion system process water.

(E) Cooling tower blowdown. For purposes of paragraph (b)(4) of this section, cooling tower blowdown means water purged from a closed cycle cooling system. Closed cycle cooling systems include cooling towers, cooling ponds, or spray canals.

(F) Air heater and precipitator washes. For purposes of paragraph (b)(4) of this section, air heater and precipitator washes means wastes from cleaning air preheaters and electrostatic precipitators.

(G) Effluents from floor and yard drains and sumps. For purposes of paragraph (b)(4) of this section, effluents from floor and yard drains and sumps means wastewaters, such as wash water, collected by or from floor drains, equipment drains, and sumps located inside the power plant building; and wastewaters, such as rain runoff, collected by yard drains and sumps located outside the power plant building.

(H) Wastewater treatment sludges. For purposes of paragraph (b)(4) of this section, wastewater treatment sludges refers to sludges generated from the treatment of wastewaters specified in paragraphs (b)(4)(ii)(A) through (F) of this section.

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

(6)(i) Wastes which fail the test for the Toxicity Characteristic because chromium is present or are listed in subsection D due to the presence of chromium, which do not fail the test for the Toxicity Characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(B) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) The waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific wastes which meet the standard in paragraphs (b)(6)(i) (A), (B), and (C) (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are:

(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue;

and shearling.

(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(F) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock, and overburden from the mining of uranium ore), except as provided by §266.112 of this rule for facilities that burn or process hazardous waste.

(i) For purposes of § 261.4(b)(7), beneficiation of ores and minerals is restricted to the following activities; crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination) /leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and in situ leaching.

(ii) For the purposes of §261.4(b)(7), solid waste from the processing of ores and minerals includes only the following wastes as generated:

(A) Slag from primary copper processing;

(B) Slag from primary lead processing;

(C) Red and brown muds from bauxite refining;

(D) Phosphogypsum from phosphoric acid production;

(E) Slag from elemental phosphorus production;

(F) Gasifier ash from coal gasification;

(G) Process wastewater from coal gasification;

(H) Calcium sulfate wastewater treatment plant sludge from primary copper processing;

(I) Slag tailings from primary copper processing;

(J) Fluorogypsum from hydrofluoric acid production;

(K) Process wastewater from hydrofluoric acid production;

- (L) Air pollution control dust/sludge from iron blast furnaces;
 - (M) Iron blast furnace slag;
 - (N) Treated residue from roasting/leaching of chrome ore;
 - (O) Process wastewater from primary magnesium processing by the anhydrous process;
 - (P) Process wastewater from phosphoric acid production;
 - (Q) Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;
 - (R) Basic oxygen furnace and open hearth furnace slag from carbon steel production;
 - (S) Chloride process waste solids from titanium tetrachloride production;
 - (T) Slag from primary zinc processing.
- (iii) A residue derived from co-processing mineral processing secondary materials with normal beneficiation raw materials or with normal mineral processing raw materials remains excluded under paragraph (b) of this section if the owner or operator:
- (A) Processes at least 50 percent by weight normal beneficiation raw materials or normal mineral processing raw materials; and,
 - (B) Legitimately reclaims the secondary mineral processing materials.
- (8) Cement kiln dust waste, except as provided by § 266.112 of this rule for facilities that burn or process hazardous waste.
- (9) Solid waste which consists of discarded arsenical-treated wood or wood products which fails the test for the Toxicity Characteristic for Hazardous Waste Codes D004 through D017 and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.
- (10) Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of § 261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under 40 CFR 280.
- (11) Injected groundwater that is hazardous only because it exhibits the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) in § 261.24 of this section that is reinjected through an underground injection well pursuant to free phase hydrocarbon recovery operations undertaken at petroleum refineries, petroleum marketing terminals, petroleum bulk plants, petroleum pipelines, and petroleum transportation spill sites until January 25, 1993. This extension applies to recovery operations in existence, or for which contracts have been issued, on or before March 25, 1991. For groundwater returned through infiltration galleries from such operations at petroleum refineries, marketing terminals, and bulk plants, until October 2, 1991. New operations involving injection wells (beginning after March 25, 1991) will qualify for this compliance date extension (until January 25, 1993) only if:
- (i) Operations are performed pursuant to a written state agreement that includes a provision to assess the groundwater and the need for further remediation once the free phase recovery is completed; and
 - (ii) A copy of the written agreement has been submitted to: Characteristics Section (OS-333), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

(12) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use.

(13) Non-terne plated used oil filters that are not mixed with wastes listed in subsection D of this section if these oil filters have been gravity hot-drained using one of the following methods:

- (i) Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;
- (ii) Hot-draining and crushing;
- (iii) Dismantling and hot-draining; or
- (iv) Any other equivalent hot-draining method that will remove used oil.

(14) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

(15) Leachate or gas condensate collected from landfills where certain solid wastes have been disposed, provided that:

(i) The solid wastes disposed would meet one or more of the listing descriptions for Hazardous Waste Codes K169, K170, K171, K172, K174, K175, K176, K177, K178, and K181 if these wastes had been generated after the effective date of the listing;

(ii) The solid wastes described in paragraph (b)(15)(i) of this section were disposed prior to the effective date of the listing;

(iii) The leachate or gas condensate do not exhibit any characteristic of hazardous waste nor are derived from any other listed hazardous waste;

(iv) Discharge of the leachate or gas condensate, including leachate or gas condensate transferred from the landfill to a POTW by truck, rail, or dedicated pipe, is subject to regulation under sections 307(b) or 402 of the Clean Water Act.

(v) After February 13, 2001, leachate or gas condensate derived from K169–172 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. After November 21, 2003, leachate or gas condensate derived from K176, K177, and K178 will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. After February 26, 2007, leachate or gas condensate derived from K181 will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. There is one exception: if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (e.g., shutdown of wastewater treatment system), provided the impoundment has a double liner, and provided the leachate or gas condensate is removed from the impoundment and continues to be managed in compliance with the conditions of this paragraph (b)(15)(v) after the emergency ends.

(16-17) [Reserved]

(18) “Solvent-contaminated wipes, except for wipes that are hazardous waste due to the presence of trichloroethylene, that are sent for disposal are not hazardous waste from the point of generation provided that

(i) The solvent-contaminated wipes, when accumulated, stored, and transported, are contained in non-leaking, closed containers that are labeled “Excluded Solvent-Contaminated Wipes.” The containers must be able to contain free liquids, should free liquids occur. During accumulation, a container is considered closed when there is

complete contact between the fitted lid and the rim, except when it is necessary to add or remove solvent-contaminated wipes. When the container is full, or when the solvent-contaminated wipes are no longer being accumulated, or when the container is being transported, the container must be sealed with all lids properly and securely affixed to the container and all openings tightly bound or closed sufficiently to prevent leaks and emissions;

(ii) The solvent-contaminated wipes may be accumulated by the generator for up to 180 days from the start date of accumulation for each container prior to being sent for disposal;

(iii) At the point of being transported for disposal, the solvent-contaminated wipes must contain no free liquids as defined in § 260.10;

(iv) Free liquids removed from the solvent-contaminated wipes or from the container holding the wipes must be managed according to the applicable rules found in Rule 23 §§ 260 through 273;

(v) Generators must maintain at their site the following documentation:

(A) Name and address of the landfill or combustor that is receiving the solvent-contaminated wipes;

(B) Documentation that the 180 day accumulation time limit in Rule 23 § 261.4(b)(18)(ii) is being met;

(C) Description of the process the generator is using to ensure solvent-contaminated wipes contain no free liquids at the point of being transported for disposal;

(vi) The solvent-contaminated wipes are sent for disposal:

(A) To a municipal solid waste landfill regulated under Rule 22.701, or to a hazardous waste landfill regulated under Rule 23 §§ 264 or 265; or

(B) To a municipal waste combustor or other combustion facility regulated under § 129 of the Clean Air Act or to a hazardous waste combustor, boiler, or industrial furnace regulated under Rule 23 §§ 264, 265, or 266 Subsection H.²²

(c) Hazardous wastes which are exempted from certain rules. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under sections 262 through 265, 268, 270 of this rule, 40 CFR Part 271 and Part 124, or to the notification requirements of section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(d) Samples. (1) Except as provided in paragraph (d)(2) and (4) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this section or sections 262 through 268 or section 270 of this rule or 40 CFR Part 124 or to the notification requirements of section 3010 of RCRA, when:

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing; or

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing; or

- (iv) The sample is being stored in a laboratory before testing; or
- (v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or
- (vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraphs (d)(1) (i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

- (i) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or
- (ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:
 - (A) Assure that the following information accompanies the sample:
 - (1) The sample collector's name, mailing address, and telephone number;
 - (2) The laboratory's name, mailing address, and telephone number;
 - (3) The quantity of the sample;
 - (4) The date of shipment; and
 - (5) A description of the sample.
 - (B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

(4) In order to qualify for the exemption in paragraphs (d)(1)(i) and (ii) of this section, the mass of a sample that will be exported to a foreign laboratory or that will be imported to a U.S. laboratory from a foreign source must additionally not exceed 25 kg.

(e) **Treatability Study Samples.** (1) Except as provided in paragraph (e)(2) and (4) of this section, persons who generate or collect samples for the purpose of conducting treatability studies as defined in section 260.10, are not subject to any requirement of sections 261 through 263 of this rule or to the notification requirements of Section 3010 of RCRA, nor are such samples included in the quantity determinations of § 261.5 and § 262.34(d) when:

- (i) The sample is being collected and prepared for transportation by the generator or sample collector; or
- (ii) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or
- (iii) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(2) The exemption in paragraph (e)(1) of this section is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

- (i) The generator or sample collector uses (in "treatability studies") no more than 10,000 kg of media contaminated with non-acute hazardous waste, 1000 kg of non-acute hazardous waste other than contaminated media, 1 kg of acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste for each process being evaluated for

each generated waste stream; and

(ii) The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with non-acute hazardous waste, or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of hazardous waste, and 1 kg of acute hazardous waste; and

(iii) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of paragraph A or B of this subparagraph are met.

(A) The transportation of each sample shipment complies with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(B) If the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

(1) The name, mailing address, and telephone number of the originator of the sample;

(2) The name, address, and telephone number of the facility that will perform the treatability study;

(3) The quantity of the sample;

(4) The date of shipment; and

(5) A description of the sample, including its EPA Hazardous Waste Number.

(iv) The sample is shipped to a laboratory or testing facility which is exempt under § 261.4(f) or has an appropriate RCRA permit or interim status.

(v) The generator or sample collector maintains the following records for a period ending 3 years after completion of the treatability study:

(A) Copies of the shipping documents;

(B) A copy of the contract with the facility conducting the treatability study;

(C) Documentation showing:

(1) The amount of waste shipped under this exemption;

(2) The name, address, and EPA identification number of the laboratory or testing facility that received the waste;

(3) The date the shipment was made; and

(4) Whether or not unused samples and residues were returned to the generator.

(vi) The generator reports the information required under paragraph (e)(2)(v)(C) of this section in its annual report.

(3) The Director may grant requests on a case-by-case basis for up to an additional two years for treatability studies involving bioremediation. The Director may grant requests on a case-by-case basis for quantity limits in excess of those specified in paragraphs (e)(2) (i) and (ii) and (f)(4) of this section, for up to an additional 5000 kg of media contaminated with non-acute hazardous waste, 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste:

(i) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing such requests include the nature of the technology, the type of process (e.g., batch versus continuous), size of the unit undergoing testing

(particularly in relation to scale-up considerations), the time/quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

(ii) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when: There has been an equipment or mechanical failure during the conduct of a treatability study; there is a need to verify the results of a previously conducted treatability study; there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

(iii) The additional quantities and timeframes allowed in paragraph (e)(3) (i) and (ii) of this section are subject to all the provisions in paragraphs (e) (1) and (e)(2) (iii) through (vi) of this section. The generator or sample collector must apply to the Director and provide in writing the following information:

(A) The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed;

(B) Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results on each treatability study;

(C) A description of the technical modifications or change in specifications which will be evaluated and the expected results;

(D) If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

(E) Such other information that the Director considers necessary.

(4) In order to qualify for the exemption in paragraph (e)(1)(i) of this section, the mass of a sample that will be exported to a foreign laboratory or testing facility, or that will be imported to a U.S. laboratory or testing facility from a foreign source must additionally not exceed 25 kg.

(f) Samples Undergoing Treatability Studies at Laboratories and Testing Facilities. Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to RCRA requirements) are not subject to any requirement of this section, 40 CFR Part 124, Sections 262-266, 268, and 270 of this rule, or to the notification requirements of Section 3010 of RCRA provided that the conditions of paragraphs (f) (1) through (11) of this section are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to paragraphs (f) (1) through (11) of this section. Where a group of MTUs are located at the same site, the limitations specified in (f) (1) through (11) of this section apply to the entire group of MTUs collectively as if the group were one MTU.

(1) No less than 45 days before conducting treatability studies, the facility notifies the Director in writing that it intends to conduct treatability studies under this paragraph.

(2) The laboratory or testing facility conducting the treatability study has an EPA

identification number.

(3) No more than a total of 10,000 kg of “as received” media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other “as received” hazardous waste is subject to initiation of treatment in all treatability studies in any single day. “As received” waste refers to the waste as received in the shipment from the generator or sample collector.

(4) The quantity of “as received” hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of non-acute hazardous wastes other than contaminated media, and 1 kg of acute hazardous waste. This quantity limitation does not include treatment materials (including nonhazardous solid waste) added to “as received” hazardous waste.

(5) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year (two years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to five years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(6) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(7) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

- (i) The name, address, and EPA identification number of the generator or sample collector of each waste sample;
- (ii) The date the shipment was received;
- (iii) The quantity of waste accepted;
- (iv) The quantity of “as received” waste in storage each day;
- (v) The date the treatment study was initiated and the amount of “as received” waste introduced to treatment each day;
- (vi) The date the treatability study was concluded;
- (vii) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(8) The facility keeps, on-site, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(9) The facility prepares and submits a report to the Director by March 15 of each year that includes the following information for the previous calendar year:

- (i) The name, address, and EPA identification number of the facility conducting the treatability studies;
- (ii) The types (by process) of treatability studies conducted;
- (iii) The names and addresses of persons for whom studies have been conducted

(including their EPA identification numbers);

(iv) The total quantity of waste in storage each day;

(v) The quantity and types of waste subjected to treatability studies;

(vi) When each treatability study was conducted;

(vii) The final disposition of residues and unused sample from each treatability study.

(10) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under § 261.3 and, if so, are subject to sections 261 through 268, and section 270 of this rule, unless the residues and unused samples are returned to the sample originator under the § 261.4(e) exemption.

(11) The facility notifies the Director by letter when the facility is no longer planning to conduct any treatability studies at the site.

(g) Dredged material that is not a hazardous waste. Dredged material that is subject to the requirements of a permit that has been issued under 404 of the Federal Water Pollution Control Act (33 U.S.C.1344) or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413) is not a hazardous waste. For this paragraph (g), the following definitions apply:

(1) The term dredged material has the same meaning as defined in 40 CFR 232.2;

(2) The term “permit” means:

(i) A permit issued by the U.S. Army Corps of Engineers (Corps) or an approved State under section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344);

(ii) A permit issued by the Corps under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413); or

(iii) In the case of Corps civil works projects, the administrative equivalent of the permits referred to in paragraphs (g)(2)(i) and (ii) of this section, as provided for in Corps regulations (for example, see 33 CFR 336.1, 336.2, and 337.6).

(h) Carbon Dioxide Stream Injected for Geologic Sequestration. Carbon dioxide streams that are captured and transported for purposes of injection into an underground injection well subject to the requirements for Class VI Underground Injection Control wells, including the requirements in 40 CFR Parts 144 and 146 of the Underground Injection Control Program of the Safe Drinking Water Act, are not a hazardous waste, provided the following conditions are met:

(1) Transportation of the carbon dioxide stream must be in compliance with U.S. Department of Transportation requirements, including the pipeline safety laws (49 U.S.C. § 60101 et seq.) and regulations (49 C.F.R. Parts 190-199) of the U.S. Department of Transportation, and pipeline safety regulations adopted and administered by a state authority pursuant to a certification under 49 U.S.C. § 60105, as applicable.

(2) Injection of the carbon dioxide stream must be in compliance with the applicable requirements for Class VI Underground Injection Control wells, including the applicable requirements in 40 CFR Parts 144 and 146;

(3) No hazardous wastes shall be mixed with, or otherwise co-injected with, the carbon dioxide stream; and

(4)(i) Any generator of a carbon dioxide stream, who claims that a carbon dioxide stream is excluded under paragraph (h) of this section, must have an authorized representative (as defined in 40 CFR 260.10) sign a certification statement worded as follows:

I certify under penalty of law that the carbon dioxide stream that I am claiming to be excluded under 40 C.F.R. § 261.4(h) has not been mixed with hazardous wastes, and I have transported the carbon dioxide stream in compliance with (or

have contracted with a pipeline operator or transporter to transport the carbon dioxide stream in compliance with) Department of Transportation requirements, including the pipeline safety laws (49 U.S.C. § 60101 et seq.) and regulations (49 C.F.R. Parts 190-199) of the U.S. Department of Transportation, and the pipeline safety regulations adopted and administered by a state authority pursuant to a certification under 49 U.S.C. § 60105, as applicable, for injection into a well subject to the requirements for the Class VI Underground Injection Control Program of the Safe Drinking Water Act.

(ii) Any Class VI Underground Injection Control well owner or operator, who claims that a carbon dioxide stream is excluded under paragraph (h) of this section, must have an authorized representative (as defined in 40 CFR 260.10) sign a certification statement worded as follows:

I certify under penalty of law that the carbon dioxide stream that I am claiming to be excluded under 40 C.F.R. § 261.4(h) has not been mixed with, or otherwise co-injected with, hazardous waste at the Underground Injection Control (UIC) Class VI permitted facility, and that injection of the carbon dioxide stream is in compliance with the applicable requirements for UIC Class VI wells, including the applicable requirements in 40 CFR Parts 144 and 146.

(iii) The signed certification statement must be kept on-site for no less than three years, and must be made available within 72 hours of a written request from the Director (if located in an authorized state), or their designee. The signed certification statement must be renewed every year that the exclusion is claimed, by having an authorized representative (as defined in 40 CFR 260.10) annually prepare and sign a new copy of the certification statement within one year of the date of the previous statement. The signed certification statement must also be readily accessible on the facility's publicly-available website (if such website exists) as a public notification with the title of "Carbon Dioxide Stream Certification" at the time the exclusion is claimed.

§ 261.5 [Reserved]

§ 261.6 Requirements for recyclable materials

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials."

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under subsections C through N of Section 266 of this rule and all applicable provisions in Sections 268 and 270 of this rule and 40 CFR Part 124:

- (i) Recyclable materials used in a manner constituting disposal (§ 266, Subsection C);
- (ii) Hazardous wastes burned (as defined in § 266.100(a)) in boilers and industrial furnaces that are not regulated under subsection O of Section 264 or 265 of this rule (Section 266, Subsection H);
- (iii) Recyclable materials from which precious metals are reclaimed (§ 266, Subsection F);
- (iv) Spent lead-acid batteries that are being reclaimed (§ 266, Subsection G).

(3) The following recyclable materials are not subject to regulation under Sections 262 through 268, and 270 of this rule or 40 CFR Part 124, and are not subject to the notification requirements of Section 3010 of RCRA:

(i) Industrial ethyl alcohol that is reclaimed except that exports and imports of such recyclable materials must comply with the requirements of APC-&-EC Rule No. 23 section 262, subsection H.

(A) A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in §§ 262.53, 262.56(a)(1)-(4), (6), and (b), and 262.57, export such materials only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as defined in subsection E of section 262, and provide a copy of the EPA Acknowledgment of Consent to the shipment to the transporter transporting the shipment for export;

(B) Transporters transporting a shipment for export may not accept a shipment if he knows the shipment does not conform to the EPA Acknowledgment of Consent, must ensure that a copy of the EPA Acknowledgment of Consent accompanies the shipment and must ensure that it is delivered to the facility designated by the person initiating the shipment.

(ii) Scrap metal that is not excluded under § 261.4(a)(13) of this rule;

(iii) Fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste, where such recovered oil is already excluded under § 261.4(a)(12);

(iv)(A) Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under § 279.11 of this rule and so long as no other hazardous wastes are used to produce the hazardous waste fuel;

(B) Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under § 279.11 of this rule; and

(C) Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under § 279.11 of this rule.

(4) Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to the requirements of Sections 260 through 268 of this rule, but is regulated under section 279 of this rule. Used oil that is recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery, or reprocessed.

(5) Hazardous waste that is exported or imported for purpose of recovery is subject to the requirements of APC&EC Rule No. 23 section 262, subsection H.

(b) Generators and transporters of recyclable materials are subject to the applicable requirements of sections 262 and 263 of this rule and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section.

(c)(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subsections A through L, AA, BB, and CC of Sections 264 and 265, and under Sections 266, 267, 268, and 270 of this rule and 40 CFR Part 124, and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation except as provided in § 261.6(d).)

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in paragraph (a) of this section:

(i) Notification requirements under section 3010 of RCRA;

(ii) Sections 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies) of this rule.

(iii) Section 261.6(d) of this rule.

(iv) Section 265.75 of this rule (annual reporting requirements).

(d) Owners or operators of facilities subject to RCRA permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of subsections AA and BB of Sections 264, 265 or 267 of this rule.

§ 261.7 Residues of hazardous waste in empty containers

(a)(1) Any hazardous waste remaining in either (i) an empty container or (ii) an inner liner removed from an empty container, as defined in paragraph (b) of this section, is not subject to regulation under Sections 261 through 268 and 270 of this rule or 40 CFR Part 124 or to the notification requirements of section 3010 of RCRA.

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a container that is not empty, as defined in paragraph (b) of this section, is subject to regulation under Sections 261 through 268 and 270 of this rule and 40 CFR Part 124 and to the notification requirements of section 3010 of RCRA.

(b)(1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in §§ 261.31 or 261.33(e) of this rule is empty if:

(i) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and

(ii) No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or

(iii)(A) No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons in size, or

(B) No more than 0.3 percent by weight of the total capacity of the container

remains in the container or inner liner if the container is greater than 119 gallons in size.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held an acute hazardous waste listed in §§ 261.31 or 261.33(e) is empty if:

(i) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(ii) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(iii) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

§ 261.8 PCB Wastes Regulated under Toxic Substances Control Act

The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under 40 CFR Part 761 and that are hazardous only because they fail the test for the toxicity characteristic (hazardous waste codes D018 through D043 only) are exempt from regulation under Sections 261 through 265, and Sections 268 and 270 of this rule, and the notification requirements of Section 3010 of the RCRA.

§ 261.9 Requirements for Universal Waste

The wastes listed in this section are exempt from regulation under Sections 262 through 270 of this rule except as specified in Section 273 of this rule and, therefore are not fully regulated as hazardous waste. The wastes listed in this section are subject to regulation under Section 273:

(a) Batteries as described in § 273.2;

(b) Pesticides as described in § 273.3 of this rule;

(c) Mercury-containing devices as described in § 273.4 of this rule;

(d) Lamps as described in § 273.5 of this rule; and

(e) *Consumer electronic items ("electronic wastes") as described in § 273.6 of this rule.*

Subsection B -- Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste

§ 261.10 Criteria for identifying the characteristics of hazardous waste

(a) The Director shall identify and define a characteristic of hazardous waste in subsection C only upon determining that:

(1) A solid waste that exhibits the characteristic may:

(i) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(ii) Pose a substantial present or potential hazard to human health or the environment

when it is improperly treated, stored, transported, disposed of or otherwise managed;
and

(2) The characteristic can be:

(i) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(ii) Reasonably detected by generators of solid waste through their knowledge of their waste.

§ 261.11 Criteria for listing hazardous waste

(a) The Commission shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in subsection C.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated *Acutely Hazardous Waste*.)

(3) It contains any of the toxic constituents listed in Appendix VIII and, after considering the following factors, the Director concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

(i) The nature of the toxicity presented by the constituent.

(ii) The concentration of the constituent in the waste.

(iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this section.

(iv) The persistence of the constituent or any toxic degradation product of the constituent.

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(vii) The plausible types of improper management to which the waste could be subjected.

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(xi) Such other factors as may be appropriate.

Substances will be listed on Appendix VIII only if they have been shown in scientific studies

to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms. (Wastes listed in accordance with these criteria will be designated Toxic wastes.)

(b) The Director may list classes or types of solid waste as hazardous waste if he has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in section 1004(5) of the Act.

(c) The Director will use the criteria for listing specified in this section to establish the exclusion limits referred to in § 261.5(c).

Subsection C -- Characteristics of Hazardous Waste.

§ 261.20 General

(a) A solid waste, as defined in § 261.2, which is not excluded from regulation as a hazardous waste under § 261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subsection.

Comment: § 262.11 of this rule sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in this subsection.

(b) A hazardous waste which is identified by a characteristic in this subsection is assigned every EPA Hazardous Waste Number that is applicable as set forth in this subsection. This number must be used in complying with the notification requirements of section 3010 of the Act and all applicable recordkeeping and reporting requirements under sections 262 through 265, 268, and 270 of this rule.

(c) For purposes of this subsection, the Director will consider a sample obtained using any of the applicable sampling methods specified in Appendix I to be a representative sample within the meaning of section 260 of this rule.

Comment: Since the Appendix I sampling methods are not being formally adopted by the Director, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in §§ 260.20 and 260.21.

§ 261.21 Characteristic of ignitability

(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see § 260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see § 260.11).

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas.

(i) The term "compressed gas" shall designate any material or mixture having in the container an absolute pressure exceeding 40 p.s.i. at 70°F or, regardless of the pressure at 70°F, having an absolute pressure exceeding 104 p.s.i. at 130°F; or any liquid

flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100°F as determined by ASTM Test D-323.

(ii) A compressed gas shall be characterized as ignitable if any one of the following occurs:

(A) Either a mixture of 13 percent or less (by volume) with air forms a flammable mixture or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure.

The method of sampling and test procedure shall be acceptable to the Bureau of Explosives and approved by the director, Pipeline and Hazardous Materials Technology, U.S. Department of Transportation (see Note 2).

(B) Using the Bureau of Explosives' Flame Projection Apparatus (see Note 1), the flame projects more than 18 inches beyond the ignition source with valve opened fully, or, the flame flashes back and burns at the valve with any degree of valve opening.

(C) Using the Bureau of Explosives' Open Drum Apparatus (see Note 1), there is any significant propagation of flame away from the ignition source.

(D) Using the Bureau of Explosives' Closed Drum Apparatus (see Note 1), there is any explosion of the vapor-air mixture in the drum.

(4) An oxidizer is a substance that yields oxygen readily to stimulate the combustion of organic matter

(i) An organic compound containing the bivalent -O-O- structure and may be considered a derivative of hydrogen peroxide must be classed as an organic peroxide unless:

(A) The material meets the definition of a Class A explosive or a Class B explosive, as defined in § 261.23(a)(8), in which case it must be classed as an explosive, (B) The material is forbidden to be offered for transportation according to 49 CFR 172.101 and 49 CFR 173.21, (C) It is determined that the predominant hazard of the material containing an organic peroxide is other than that of an organic peroxide, or (D) According to data on file with the Pipeline and Hazardous Materials Safety Administration in the U.S. Department of Transportation (see Note 3), it has been determined that the material does not present a hazard in transportation.

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

Note 1: A description of the Bureau of Explosives' Flame Projection Apparatus, Open Drum Apparatus, Closed Drum Apparatus, and method of tests may be procured from the Bureau of Explosives.

Note 2: As part of a U.S. Department of Transportation (DOT) reorganization, the Office of Hazardous Materials Technology (OHMT), which was the office listed in the 1980 publication of 49 CFR 173.300 for the purposes of approving sampling and test procedures for a flammable gas, ceased operations on February 20, 2005. OHMT programs have moved to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the DOT.

Note 3: As part of a U.S. Department of Transportation (DOT) reorganization, the Research and Special Programs Administration (RSPA), which was the office listed in the 1980 publication of 49 CFR 173.151a for the purposes of determining that a material does not present a hazard in transport, ceased operations on February 20, 2005. RSPA programs have moved to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the DOT.

Note 4: The DOT regulatory definition of an oxidizer was contained in § 173.151 of 49 CFR, and the definition of an organic peroxide was contained in paragraph 173.151a. An organic peroxide is a type of oxidizer.

§ 261.22 Characteristic of corrosivity

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040C in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by Method 1110A in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, and as incorporated by reference in § 260.11 of this Rule.

(b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

§ 261.23 Characteristic of reactivity

(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.54, or is a Division 1.1, 1.2, or 1.3 explosive as defined in 49 CFR 173.50 and 173.53.

(b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

§ 261.24 Toxicity characteristic

(a) A solid waste (except a manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

(b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste

Number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous.

Table 1.
Maximum Concentration of Contaminants for the
Toxicity Characteristic

| EPA HW Number | Contaminant | CAS No. ² | Regulatory Level (mg/L) |
|---------------|------------------------------|----------------------|-------------------------|
| D004 | Arsenic | 7440-38-2 | 5.0 |
| D005 | Barium | 7440-39-3 | 100.0 |
| D018 | Benzene | 71-43-2 | 0.5 |
| D006 | Cadmium | 7440-43-9 | 1.0 |
| D019 | Carbon tetrachloride | 56-23-5 | 0.5 |
| D020 | Chlordane | 57-74-9 | 0.03 |
| D021 | Chlorobenzene | 108-90-7 | 100.0 |
| D022 | Chloroform | 67-66-3 | 6.0 |
| D007 | Chromium | 7440-47-3 | 5.0 |
| D023 | o-Cresol | 95-48-7 | ⁴ 200.0 |
| D024 | m-Cresol | 108-39-4 | ⁴ 200.0 |
| D025 | p-Cresol | 106-44-5 | ⁴ 200.0 |
| D026 | Cresol | | ⁴ 200.0 |
| D016 | 2,4-D | 94-75-7 | 10.0 |
| D027 | 1,4-Dichlorobenzene | 106-46-7 | 7.5 |
| D028 | 1,2-Dichloroethane | 107-06-2 | 0.5 |
| D029 | 1,1-Dichloroethylene | 75-35-4 | 0.7 |
| D030 | 2,4-Dinitrotoluene | 121-14-2 | ³ 0.13 |
| D012 | Endrin | 72-20-8 | 0.02 |
| D031 | Heptachlor (and its epoxide) | 76-44-8 | 0.008 |
| D032 | Hexachlorobenzene | 118-74-1 | ³ 0.13 |
| D033 | Hexachlorobutadiene | 87-68-3 | 0.5 |
| D034 | Hexachloroethane | 67-72-1 | 3.0 |

| | | | |
|------|-----------------------|-----------|------------------|
| D008 | Lead | 7439-92-1 | 5.0 |
| D013 | Lindane | 58-89-9 | 0.4 |
| D009 | Mercury | 7439-97-6 | 0.2 |
| D014 | Methoxychlor | 72-43-5 | 10.0 |
| D035 | Methyl ethyl ketone | 78-93-3 | 200.0 |
| D036 | Nitrobenzene | 98-95-3 | 2.0 |
| D037 | Pentachlorophenol | 87-86-5 | 100.0 |
| D038 | Pyridine | 110-86-1 | ³ 5.0 |
| D010 | Selenium | 7782-49-2 | 1.0 |
| D011 | Silver | 7440-22-4 | 5.0 |
| D039 | Tetrachloroethylene | 127-18-4 | 0.7 |
| D015 | Toxaphene | 8001-35-2 | 0.5 |
| D040 | Trichloroethylene | 79-01-6 | 0.5 |
| D041 | 2,4,5-Trichlorophenol | 95-95-4 | 400.0 |
| D042 | 2,4,6-Trichlorophenol | 88-06-2 | 2.0 |
| D017 | 2,4,5-TP (Silvex) | 93-72-1 | 1.0 |
| D043 | Vinyl chloride | 75-01-4 | 0.2 |

1. Hazardous waste number.
2. Chemical abstracts service number.
3. Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
4. If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

Subsection D -- Lists of Hazardous Wastes

§ 261.30 General

(a) A solid waste is a hazardous waste if it is listed in this subsection, unless it has been excluded from this list under §§ 260.20 and 260.22.

(b) The Director will indicate his basis for listing the classes or types of wastes listed in this subsection by employing one or more of the following Hazard Codes:

- | | |
|-----------------|-----|
| Ignitable Waste | (I) |
| Corrosive Waste | (C) |
| Reactive Waste | (R) |

Toxicity Characteristic Waste (E)
 Acute Hazardous Waste (H)
 Toxic Waste (T)

Appendix VII identifies the constituent which caused the Director to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in §§ 261.31 and 261.32.

(c) Each hazardous waste listed in this subsection is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the Act and certain recordkeeping and reporting requirements under Sections 262 through 265, 267, 268, and 270 of this rule.

(d) The following hazardous wastes listed in § 261.31 are subject to the exclusion limits for acutely hazardous wastes established in § 261.5: EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, and F027.

§ 261.31 Hazardous wastes from non-specific sources

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

| Industry and EPA hazardous waste Code | Hazardous waste | Hazard code |
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| Generic: | | |
| F001 | The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (T) |
| F002 | The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (T) |
| F003 | The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non- | (I)* |

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| | halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | |
| F004 | The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (T) |
| F005 | The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (I,T) |
| F006 | Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum | (T) |
| F007 | Spent cyanide plating bath solutions from electroplating operations | (R, T) |
| F008 | Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process | (R, T) |
| F009 | Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process | (R, T) |
| F010 | Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process | (R, T) |
| F011 | Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations | (R, T) |
| F012 | Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process | (T) |
| F019 | Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to | (T) |

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| | <p>this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either: disposed in a Subtitle D municipal or industrial landfill unit that is equipped with a single clay liner and is permitted, licensed or otherwise authorized by the state; or disposed in a landfill unit subject to, or otherwise meeting, the landfill requirements in §258.40, §264.301 or §265.301. For the purposes of this listing, motor vehicle manufacturing is defined in paragraph (b)(4)(i) of this section and (b)(4)(ii) of this section describes the recordkeeping requirements for motor vehicle manufacturing facilities</p> | |
| F020 | <p>Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)</p> | (H) |
| F021 | <p>Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives</p> | (H) |
| F022 | <p>Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions</p> | (H) |
| F023 | <p>Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)</p> | (H) |
| F024 | <p>Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in §261.31 or §261.32.)</p> | (T) |
| F025 | <p>Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging</p> | (T) |

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| | from one to and including five, with varying amounts and positions of chlorine substitution | |
| F026 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions | (H) |
| F027 | Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.) | (H) |
| F028 | Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 | (T) |
| F032 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol | (T) |
| F034 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol | (T) |
| F035 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol | (T) |
| F037 | Petroleum refinery primary oil/water/solids separation sludge—Any sludge generated from the gravitational separation of oil/water/solids | (T) |

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| | during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under §261.4(a)(12)(i), if those residuals are to be disposed of | |
| F038 | Petroleum refinery secondary (emulsified) oil/water/solids separation sludge—Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing | (T) |
| F039 | Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.) | (T) |

FOOTNOTE: *(I,T) should be used to specify mixtures that are ignitable and contain toxic constituents.

(b) Listing Specific Definitions: (1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.

(2) (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the

wastes, enhance biological activity, and (A) the units employ a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that: (A) the unit is an aggressive biological treatment unit as defined in this subsection; and (B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually treated in the aggressive biological treatment unit.

(3) (i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing,

(A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and

(B) floats are considered to be generated at the moment they are formed in the top of the unit.

(4) For the purposes of the F019 listing, the following apply to wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process.

(i) Motor vehicle manufacturing is defined to include the manufacture of automobiles and light trucks/utility vehicles (including light duty vans, pick-up trucks, minivans, and sport utility vehicles). Facilities must be engaged in manufacturing complete vehicles (body and chassis or unibody) or chassis only.

(ii) Generators must maintain in their on-site records documentation and information sufficient to prove that the wastewater treatment sludges to be exempted from the F019 listing meet the conditions of the listing. These records must include: the volume of waste generated and disposed of off site; documentation showing when the waste volumes were generated and sent off site; the name and address of the receiving facility; and documentation confirming receipt of the waste by the receiving facility. Generators must maintain these documents on site for no less than three years. The retention period for the documentation is automatically extended during the course of any enforcement action or as requested by the Director.

§ 261.32 Hazardous wastes from specific sources

(a) The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

| Industry and EPA hazardous waste No. | Hazardous waste | Hazard code |
|---|---|--------------------|
| Wood preservation: | Bottom sediment sludge from the treatment of wastewaters from | (T) |

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| K001 | wood preserving processes that use creosote and/or pentachlorophenol | |
| Inorganic pigments: | | |
| K002 | Wastewater treatment sludge from the production of chrome yellow and orange pigments | (T) |
| K003 | Wastewater treatment sludge from the production of molybdate orange pigments | (T) |
| K004 | Wastewater treatment sludge from the production of zinc yellow pigments | (T) |
| K005 | Wastewater treatment sludge from the production of chrome green pigments | (T) |
| K006 | Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated) | (T) |
| K007 | Wastewater treatment sludge from the production of iron blue pigments | (T) |
| K008 | Oven residue from the production of chrome oxide green pigments | (T) |
| Organic chemicals: | | |
| K009 | Distillation bottoms from the production of acetaldehyde from ethylene | (T) |
| K010 | Distillation side cuts from the production of acetaldehyde from ethylene | (T) |
| K011 | Bottom stream from the wastewater stripper in the production of acrylonitrile | (R, T) |
| K013 | Bottom stream from the acetonitrile column in the production of acrylonitrile | (R, T) |
| K014 | Bottoms from the acetonitrile purification column in the production of acrylonitrile | (T) |
| K015 | Still bottoms from the distillation of benzyl chloride | (T) |
| K016 | Heavy ends or distillation residues from the production of carbon tetrachloride | (T) |
| K017 | Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin | (T) |
| K018 | Heavy ends from the fractionation column in ethyl chloride production | (T) |
| K019 | Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production | (T) |

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| K020 | Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production | (T) |
| K021 | Aqueous spent antimony catalyst waste from fluoromethanes production | (T) |
| K022 | Distillation bottom tars from the production of phenol/acetone from cumene | (T) |
| K023 | Distillation light ends from the production of phthalic anhydride from naphthalene | (T) |
| K024 | Distillation bottoms from the production of phthalic anhydride from naphthalene | (T) |
| K025 | Distillation bottoms from the production of nitrobenzene by the nitration of benzene | (T) |
| K026 | Stripping still tails from the production of methy ethyl pyridines | (T) |
| K027 | Centrifuge and distillation residues from toluene diisocyanate production | (R, T) |
| K028 | Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane | (T) |
| K029 | Waste from the product steam stripper in the production of 1,1,1-trichloroethane | (T) |
| K030 | Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene | (T) |
| K083 | Distillation bottoms from aniline production | (T) |
| K085 | Distillation or fractionation column bottoms from the production of chlorobenzenes | (T) |
| K093 | Distillation light ends from the production of phthalic anhydride from ortho-xylene | (T) |
| K094 | Distillation bottoms from the production of phthalic anhydride from ortho-xylene | (T) |
| K095 | Distillation bottoms from the production of 1,1,1-trichloroethane | (T) |
| K096 | Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane | (T) |
| K103 | Process residues from aniline extraction from the production of aniline | (T) |
| K104 | Combined wastewater streams generated from nitrobenzene/aniline production | (T) |
| K105 | Separated aqueous stream from the reactor product washing step in | (T) |

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| | the production of chlorobenzenes | |
| K107 | Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | (C,T) |
| K108 | Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | (I,T) |
| K109 | Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | (T) |
| K110 | Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides | (T) |
| K111 | Product washwaters from the production of dinitrotoluene via nitration of toluene | (C,T) |
| K112 | Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene | (T) |
| K113 | Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene | (T) |
| K114 | Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene | (T) |
| K115 | Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene | (T) |
| K116 | Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine | (T) |
| K117 | Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene | (T) |
| K118 | Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene | (T) |
| K136 | Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene | (T) |
| K149 | Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups, (This waste does not include still bottoms from the distillation of benzyl chloride.) | (T) |
| K150 | Organic residuals, excluding spent carbon adsorbent, from the | (T) |

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| | spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups | |
| K151 | Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups | (T) |
| K156 | Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) | (T) |
| K157 | Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) | (T) |
| K158 | Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) | (T) |
| K159 | Organics from the treatment of thiocarbamate wastes | (T) |
| K161 | Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.) | (R,T) |
| K174 | Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (i) they are disposed of in a subtitle C or non-hazardous landfill licensed or permitted by the state or federal government; (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the requirements of subtitle C must, upon a showing by the government that the respondent managed wastewater treatment | (T) |

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| | sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (e.g., contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met | |
| K175 | Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process | (T) |
| K181 | Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in paragraph (c) of this section that are equal to or greater than the corresponding paragraph (c) levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (i) disposed in a Subtitle D landfill unit subject to the design criteria in §258.40, (ii) disposed in a Subtitle C landfill unit subject to either §264.301 or §265.301, (iii) disposed in other Subtitle D landfill units that meet the design criteria in §258.40, §264.301, or §265.301, or (iv) treated in a combustion unit that is permitted under Subtitle C, or an onsite combustion unit that is permitted under the Clean Air Act. For the purposes of this listing, dyes and/or pigments production is defined in paragraph (b)(1) of this section. Paragraph (d) of this section describes the process for demonstrating that a facility's nonwastewaters are not K181. This listing does not apply to wastes that are otherwise identified as hazardous under §§261.21-261.24 and 261.31-261.33 at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met | (T) |
| Inorganic chemicals: | | |
| K071 | Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used | (T) |
| K073 | Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production | (T) |
| K106 | Wastewater treatment sludge from the mercury cell process in chlorine production | (T) |
| K176 | Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide) | (E) |

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| K177 | Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide) | (T) |
| K178 | Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process | (T) |
| Pesticides: | | |
| K031 | By-product salts generated in the production of MSMA and cacodylic acid | (T) |
| K032 | Wastewater treatment sludge from the production of chlordane | (T) |
| K033 | Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane | (T) |
| K034 | Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane | (T) |
| K035 | Wastewater treatment sludges generated in the production of creosote | (T) |
| K036 | Still bottoms from toluene reclamation distillation in the production of disulfoton | (T) |
| K037 | Wastewater treatment sludges from the production of disulfoton | (T) |
| K038 | Wastewater from the washing and stripping of phorate production | (T) |
| K039 | Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate | (T) |
| K040 | Wastewater treatment sludge from the production of phorate | (T) |
| K041 | Wastewater treatment sludge from the production of toxaphene | (T) |
| K042 | Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T | (T) |
| K043 | 2,6-Dichlorophenol waste from the production of 2,4-D | (T) |
| K097 | Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane | (T) |
| K098 | Untreated process wastewater from the production of toxaphene | (T) |
| K099 | Untreated wastewater from the production of 2,4-D | (T) |
| K123 | Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt | (T) |
| K124 | Reactor vent scrubber water from the production of | (C, T) |

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| | ethylenebisdithiocarbamic acid and its salts | |
| K125 | Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts | (T) |
| K126 | Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts | (T) |
| K131 | Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide | (C, T) |
| K132 | Spent absorbent and wastewater separator solids from the production of methyl bromide | (T) |
| Explosives: | | |
| K044 | Wastewater treatment sludges from the manufacturing and processing of explosives | (R) |
| K045 | Spent carbon from the treatment of wastewater containing explosives | (R) |
| K046 | Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds | (T) |
| K047 | Pink/red water from TNT operations | (R) |
| Petroleum refining: | | |
| K048 | Dissolved air flotation (DAF) float from the petroleum refining industry | (T) |
| K049 | Slop oil emulsion solids from the petroleum refining industry | (T) |
| K050 | Heat exchanger bundle cleaning sludge from the petroleum refining industry | (T) |
| K051 | API separator sludge from the petroleum refining industry | (T) |
| K052 | Tank bottoms (leaded) from the petroleum refining industry | (T) |
| K169 | Crude oil storage tank sediment from petroleum refining operations | (T) |
| K170 | Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations | (T) |
| K171 | Spent Hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media) | (I,T) |
| K172 | Spent Hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media) | (I,T) |

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| Iron and steel: | | |
| K061 | Emission control dust/sludge from the primary production of steel in electric furnaces | (T) |
| K062 | Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332) | (C,T) |
| Primary aluminum: | | |
| K088 | Spent potliners from primary aluminum reduction | (T) |
| Secondary lead: | | |
| K069 | Emission control dust/sludge from secondary lead smelting. (NOTE: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the FEDERAL REGISTER) | (T) |
| K100 | Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting | (T) |
| Veterinary pharmaceuticals: | | |
| K084 | Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | (T) |
| K101 | Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | (T) |
| K102 | Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds | (T) |
| Ink formulation: | | |
| K086 | Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead | (T) |
| Coking: | | |
| K060 | Ammonia still lime sludge from coking operations | (T) |
| K087 | Decanter tank tar sludge from coking operations | (T) |
| K141 | Process residues from the recovery of coal tar, including, but not | (T) |

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| | limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations) | |
| K142 | Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal | (T) |
| K143 | Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal | (T) |
| K144 | Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal | (T) |
| K145 | Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal | (T) |
| K147 | Tar storage tank residues from coal tar refining | (T) |
| K148 | Residues from coal tar distillation, including but not limited to, still bottoms | (T) |

(b) *Listing Specific Definitions:* (1) For the purposes of the K181 listing, dyes and/or pigments production is defined to include manufacture of the following product classes: dyes, pigments, or FDA certified colors that are classified as azo, triarylmethane, perylene or anthraquinone classes. Azo products include azo, monoazo, diazo, triazo, polyazo, azoic, benzidine, and pyrazolone products. Triarylmethane products include both triarylmethane and triphenylmethane products. Wastes that are not generated at a dyes and/ or pigments manufacturing site, such as wastes from the offsite use, formulation, and packaging of dyes and/or pigments, are not included in the K181 listing.

(c) K181 Listing Levels. Nonwastewaters containing constituents in amounts equal to or exceeding the following levels during any calendar year are subject to the K181 listing, unless the conditions in the K181 listing are met.

| Constituent | Chemical Abstracts No. | Mass levels (kg/yr) |
|----------------------|------------------------|---------------------|
| Aniline | 62-53-3 | 9,300 |
| o-Anisidine | 90-04-0 | 110 |
| 4-Chloroaniline | 106-47-8 | 4,800 |
| p-Cresidine | 120-71-8 | 660 |
| 2,4-Dimethylaniline | 95-68-1 | 100 |
| 1,2-Phenylenediamine | 95-54-5 | 710 |
| 1,3-Phenylenediamine | 108-45-2 | 1,200 |

(d) Procedures for demonstrating that dyes and/or pigment nonwastewaters are not K181. The procedures described in paragraphs (d)(1)-(d)(3) and (d)(5) of this section establish when

nonwastewaters from the production of dyes/pigments would not be hazardous (these procedures apply to wastes that are not disposed in landfill units or treated in combustion units as specified in paragraph (a) of this section). If the nonwastewaters are disposed in landfill units or treated in combustion units as described in paragraph (a) of this section, then the nonwastewaters are not hazardous. In order to demonstrate that it is meeting the landfill disposal or combustion conditions contained in the K181 listing description, the generator must maintain documentation as described in paragraph (d)(4) of this section.

(1) Determination based on no K181 constituents. Generators that have knowledge (e.g., knowledge of constituents in wastes based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed) that their wastes contain none of the K181 constituents (see paragraph (c) of this section) can use their knowledge to determine that their waste is not K181. The generator must document the basis for all such determinations on an annual basis and keep each annual documentation for three years.

(2) Determination for generated quantities of 1,000 MT/yr or less for wastes that contain K181 constituents. If the total annual quantity of dyes and/or pigment nonwastewaters generated is 1,000 metric tons or less, the generator can use knowledge of the wastes (e.g., knowledge of constituents in wastes based on prior analytical data and/or information about raw materials used, production processes used, and reaction and degradation products formed) to conclude that annual mass loadings for the K181 constituents are below the listing levels of paragraph (c) of this section. To make this determination, the generator must:

(i) Each year document the basis for determining that the annual quantity of nonwastewaters expected to be generated will be less than 1,000 metric tons.

(ii) Track the actual quantity of nonwastewaters generated from January 1 through December 31 of each year. If, at any time within the year, the actual waste quantity exceeds 1,000 metric tons, the generator must comply with the requirements of paragraph (d)(3) of this section for the remainder of the year.

(iii) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(iv) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

(A) The quantity of dyes and/or pigment nonwastewaters generated.

(B) The relevant process information used.

(C) The calculations performed to determine annual total mass loadings for each K181 constituent in the nonwastewaters during the year.

(3) Determination for generated quantities greater than 1,000 MT/yr for wastes that contain K181 constituents. If the total annual quantity of dyes and/or pigment nonwastewaters generated is greater than 1,000 metric tons, the generator must perform all of the steps described in paragraphs ((d)(3)(i)-(d)(3)(xi) of this section) in order to make a determination that its waste is not K181.

(i) Determine which K181 constituents (see paragraph (c) of this section) are reasonably expected to be present in the wastes based on knowledge of the wastes (e.g., based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed).

(ii) If 1,2-phenylenediamine is present in the wastes, the generator can use either

knowledge or sampling and analysis procedures to determine the level of this constituent in the wastes. For determinations based on use of knowledge, the generator must comply with the procedures for using knowledge described in paragraph (d)(2) of this section and keep the records described in paragraph (d)(2)(iv) of this section. For determinations based on sampling and analysis, the generator must comply with the sampling and analysis and recordkeeping requirements described below in this section.

(iii) Develop a waste sampling and analysis plan (or modify an existing plan) to collect and analyze representative waste samples for the K181 constituents reasonably expected to be present in the wastes. At a minimum, the plan must include:

- (A) A discussion of the number of samples needed to characterize the wastes fully;
- (B) The planned sample collection method to obtain representative waste samples;
- (C) A discussion of how the sampling plan accounts for potential temporal and spatial variability of the wastes.

(D) A detailed description of the test methods to be used, including sample preparation, clean up (if necessary), and determinative methods.

(iv) Collect and analyze samples in accordance with the waste sampling and analysis plan.

(A) The sampling and analysis must be unbiased, precise, and representative of the wastes.

(B) The analytical measurements must be sufficiently sensitive, accurate and precise to support any claim that the constituent mass loadings are below the listing levels of paragraph (c) of this section.

(v) Record the analytical results.

(vi) Record the waste quantity represented by the sampling and analysis results.

(vii) Calculate constituent-specific mass loadings (product of concentrations and waste quantity).

(viii) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(ix) Determine whether the mass of any of the K181 constituents listed in paragraph (c) of this section generated between January 1 and December 31 of any year is below the K181 listing levels.

(x) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

- (A) The sampling and analysis plan.
- (B) The sampling and analysis results (including QA/QC data)
- (C) The quantity of dyes and/or pigment nonwastewaters generated.
- (D) The calculations performed to determine annual mass loadings.

(xi) Nonhazardous waste determinations must be conducted annually to verify that the wastes remain nonhazardous.

(A) The annual testing requirements are suspended after three consecutive successful annual demonstrations that the wastes are nonhazardous. The generator can then use knowledge of the wastes to support subsequent annual determinations.

(B) The annual testing requirements are reinstated if the manufacturing or waste treatment processes generating the wastes are significantly altered, resulting in an increase of the potential for the wastes to exceed the listing levels.

(C) If the annual testing requirements are suspended, the generator must keep

records of the process knowledge information used to support a nonhazardous determination. If testing is reinstated, a description of the process change must be retained.

(4) Recordkeeping for the landfill disposal and combustion exemptions. For the purposes of meeting the landfill disposal and combustion condition set out in the K181 listing description, the generator must maintain on site for three years documentation demonstrating that each shipment of waste was received by a landfill unit that is subject to or meets the landfill design standards set out in the listing description, or was treated in combustion units as specified in the listing description.

(5) Waste holding and handling. During the interim period, from the point of generation to completion of the hazardous waste determination, the generator is responsible for storing the wastes appropriately. If the wastes are determined to be hazardous and the generator has not complied with the subtitle C requirements during the interim period, the generator could be subject to an enforcement action for improper management.

§ 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in § 261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

(c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section, unless the container is empty as defined in § 261.7(b) of this rule.

Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, the Division considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

Comment: The phrase “commercial chemical product or manufacturing chemical intermediate having the generic name listed in ...” refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either § 261.31 or § 261.32 or will be identified as a hazardous waste by the characteristics set forth in subsection C of this section.

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H).

Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number.

| Hazardous waste No. | Chemical abstracts No. | Substance |
|----------------------------|-------------------------------|--|
| P023 | 107-20-0 | Acetaldehyde, chloro- |
| P002 | 591-08-2 | Acetamide, N-(aminothioxomethyl)- |
| P057 | 640-19-7 | Acetamide, 2-fluoro- |
| P058 | 62-74-8 | Acetic acid, fluoro-, sodium salt |
| P002 | 591-08-2 | 1-Acetyl-2-thiourea |
| P003 | 107-02-8 | Acrolein |
| P070 | 116-06-3 | Aldicarb |
| P203 | 1646-88-4 | Aldicarb sulfone. |
| P004 | 309-00-2 | Aldrin |
| P005 | 107-18-6 | Allyl alcohol |
| P006 | 20859-73-8 | Aluminum phosphide (R,T) |
| P007 | 2763-96-4 | 5-(Aminomethyl)-3-isoxazolol |
| P008 | 504-24-5 | 4-Aminopyridine |
| P009 | 131-74-8 | Ammonium picrate (R) |
| P119 | 7803-55-6 | Ammonium vanadate |
| P099 | 506-61-6 | Argentate(1-), bis(cyano-C)-, potassium |
| P010 | 7778-39-4 | Arsenic acid H ₃ AsO ₄ |
| P012 | 1327-53-3 | Arsenic oxide As ₂ O ₃ |

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| P011 | 1303-28-2 | Arsenic oxide As ₂ O ₅ |
| P011 | 1303-28-2 | Arsenic pentoxide |
| P012 | 1327-53-3 | Arsenic trioxide |
| P038 | 692-42-2 | Arsine, diethyl- |
| P036 | 696-28-6 | Arsonous dichloride, phenyl- |
| P054 | 151-56-4 | Aziridine |
| P067 | 75-55-8 | Aziridine, 2-methyl- |
| P013 | 542-62-1 | Barium cyanide |
| P024 | 106-47-8 | Benzenamine, 4-chloro- |
| P077 | 100-01-6 | Benzenamine, 4-nitro- |
| P028 | 100-44-7 | Benzene, (chloromethyl)- |
| P042 | 51-43-4 | 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)- |
| P046 | 122-09-8 | Benzeneethanamine, alpha,alpha-dimethyl- |
| P014 | 108-98-5 | Benzenethiol |
| P127 | 1563-66-2 | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate. |
| P188 | 57-64-7 | Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1). |
| P001 | ¹ 81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3% |
| P028 | 100-44-7 | Benzyl chloride |
| P015 | 7440-41-7 | Beryllium powder |
| P017 | 598-31-2 | Bromoacetone |
| P018 | 357-57-3 | Brucine |
| P045 | 39196-18-4 | 2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime |
| P021 | 592-01-8 | Calcium cyanide |
| P021 | 592-01-8 | Calcium cyanide Ca(CN) ₂ |
| P189 | 55285-14-8 | Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester. |
| P191 | 644-64-4 | Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester. |

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| P192 | 119-38-0 | Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester. |
| P190 | 1129-41-5 | Carbamic acid, methyl-, 3-methylphenyl ester. |
| P127 | 1563-66-2 | Carbofuran. |
| P022 | 75-15-0 | Carbon disulfide |
| P095 | 75-44-5 | Carbonic dichloride |
| P189 | 55285-14-8 | Carbosulfan. |
| P023 | 107-20-0 | Chloroacetaldehyde |
| P024 | 106-47-8 | p-Chloroaniline |
| P026 | 5344-82-1 | 1-(o-Chlorophenyl)thiourea |
| P027 | 542-76-7 | 3-Chloropropionitrile |
| P029 | 544-92-3 | Copper cyanide |
| P029 | 544-92-3 | Copper cyanide Cu(CN) |
| P202 | 64-00-6 | m-Cumenyl methylcarbamate. |
| P030 | | Cyanides (soluble cyanide salts), not otherwise specified |
| P031 | 460-19-5 | Cyanogen |
| P033 | 506-77-4 | Cyanogen chloride |
| P033 | 506-77-4 | Cyanogen chloride (CN)Cl |
| P034 | 131-89-5 | 2-Cyclohexyl-4,6-dinitrophenol |
| P016 | 542-88-1 | Dichloromethyl ether |
| P036 | 696-28-6 | Dichlorophenylarsine |
| P037 | 60-57-1 | Dieldrin |
| P038 | 692-42-2 | Diethylarsine |
| P041 | 311-45-5 | Diethyl-p-nitrophenyl phosphate |
| P040 | 297-97-2 | O,O-Diethyl O-pyrazinyl phosphorothioate |
| P043 | 55-91-4 | Diisopropylfluorophosphate (DFP) |
| P004 | 309-00-2 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)- |
| P060 | 465-73-6 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)- |

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| P037 | 60-57-1 | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)- |
| P051 | ¹ 72-20-8 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites |
| P044 | 60-51-5 | Dimethoate |
| P046 | 122-09-8 | alpha,alpha-Dimethylphenethylamine |
| P191 | 644-64-4 | Dimetilan. |
| P047 | ¹ 534-52-1 | 4,6-Dinitro-o-cresol, & salts |
| P048 | 51-28-5 | 2,4-Dinitrophenol |
| P020 | 88-85-7 | Dinoseb |
| P085 | 152-16-9 | Diphosphoramidate, octamethyl- |
| P111 | 107-49-3 | Diphosphoric acid, tetraethyl ester |
| P039 | 298-04-4 | Disulfoton |
| P049 | 541-53-7 | Dithiobiuret |
| P185 | 26419-73-8 | 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)-carbonyl]oxime. |
| P050 | 115-29-7 | Endosulfan |
| P088 | 145-73-3 | Endothall |
| P051 | 72-20-8 | Endrin |
| P051 | 72-20-8 | Endrin, & metabolites |
| P042 | 51-43-4 | Epinephrine |
| P031 | 460-19-5 | Ethanedinitrile |
| P194 | 23135-22-0 | Ethanimidothioic acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester. |
| P066 | 16752-77-5 | Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester |
| P101 | 107-12-0 | Ethyl cyanide |
| P054 | 151-56-4 | Ethyleneimine |
| P097 | 52-85-7 | Famphur |
| P056 | 7782-41-4 | Fluorine |

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| P057 | 640-19-7 | Fluoroacetamide |
| P058 | 62-74-8 | Fluoroacetic acid, sodium salt |
| P198 | 23422-53-9 | Formetanate hydrochloride. |
| P197 | 17702-57-7 | Formparanate. |
| P065 | 628-86-4 | Fulminic acid, mercury(2 +) salt (R,T) |
| P059 | 76-44-8 | Heptachlor |
| P062 | 757-58-4 | Hexaethyl tetraphosphate |
| P116 | 79-19-6 | Hydrazinecarbothioamide |
| P068 | 60-34-4 | Hydrazine, methyl- |
| P063 | 74-90-8 | Hydrocyanic acid |
| P063 | 74-90-8 | Hydrogen cyanide |
| P096 | 7803-51-2 | Hydrogen phosphide |
| P060 | 465-73-6 | Isodrin |
| P192 | 119-38-0 | Isolan. |
| P202 | 64-00-6 | 3-Isopropylphenyl N-methylcarbamate. |
| P007 | 2763-96-4 | 3(2H)-Isoxazolone, 5-(aminomethyl)- |
| P196 | 15339-36-3 | Manganese, bis(dimethylcarbamodithioato-S,S')-, |
| P196 | 15339-36-3 | Manganese dimethyldithiocarbamate. |
| P092 | 62-38-4 | Mercury, (acetato-O)phenyl- |
| P065 | 628-86-4 | Mercury fulminate (R,T) |
| P082 | 62-75-9 | Methanamine, N-methyl-N-nitroso- |
| P064 | 624-83-9 | Methane, isocyanato- |
| P016 | 542-88-1 | Methane, oxybis[chloro- |
| P112 | 509-14-8 | Methane, tetranitro- (R) |
| P118 | 75-70-7 | Methanethiol, trichloro- |
| P198 | 23422-53-9 | Methanimidamide, N,N-dimethyl-N'-[3-[[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride. |
| P197 | 17702-57-7 | Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbonyl]oxy]phenyl]- |
| P050 | 115-29-7 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide |

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| P059 | 76-44-8 | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- |
| P199 | 2032-65-7 | Methiocarb. |
| P066 | 16752-77-5 | Methomyl |
| P068 | 60-34-4 | Methyl hydrazine |
| P064 | 624-83-9 | Methyl isocyanate |
| P069 | 75-86-5 | 2-Methylactonitrile |
| P071 | 298-00-0 | Methyl parathion |
| P190 | 1129-41-5 | Metolcarb. |
| P128 | 315-8-4 | Mexacarbate. |
| P072 | 86-88-4 | alpha-Naphthylthiourea |
| P073 | 13463-39-3 | Nickel carbonyl |
| P073 | 13463-39-3 | Nickel carbonyl Ni(CO) ₄ , (T-4)- |
| P074 | 557-19-7 | Nickel cyanide |
| P074 | 557-19-7 | Nickel cyanide Ni(CN) ₂ |
| P075 | ¹ 54-11-5 | Nicotine, & salts |
| P076 | 10102-43-9 | Nitric oxide |
| P077 | 100-01-6 | p-Nitroaniline |
| P078 | 10102-44-0 | Nitrogen dioxide |
| P076 | 10102-43-9 | Nitrogen oxide NO |
| P078 | 10102-44-0 | Nitrogen oxide NO ₂ |
| P081 | 55-63-0 | Nitroglycerine (R) |
| P082 | 62-75-9 | N-Nitrosodimethylamine |
| P084 | 4549-40-0 | N-Nitrosomethylvinylamine |
| P085 | 152-16-9 | Octamethylpyrophosphoramidate |
| P087 | 20816-12-0 | Osmium oxide OsO ₄ , (T-4)- |
| P087 | 20816-12-0 | Osmium tetroxide |
| P088 | 145-73-3 | 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid |
| P194 | 23135-22-0 | Oxamyl. |
| P089 | 56-38-2 | Parathion |

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| P034 | 131-89-5 | Phenol, 2-cyclohexyl-4,6-dinitro- |
| P048 | 51-28-5 | Phenol, 2,4-dinitro- |
| P047 | ¹ 534-52-1 | Phenol, 2-methyl-4,6-dinitro-, & salts |
| P020 | 88-85-7 | Phenol, 2-(1-methylpropyl)-4,6-dinitro- |
| P009 | 131-74-8 | Phenol, 2,4,6-trinitro-, ammonium salt (R) |
| P128 | 315-18-4 | Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester). |
| P199 | 2032-65-7 | Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate |
| P202 | 64-00-6 | Phenol, 3-(1-methylethyl)-, methyl carbamate. |
| P201 | 2631-37-0 | Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate. |
| P092 | 62-38-4 | Phenylmercury acetate |
| P093 | 103-85-5 | Phenylthiourea |
| P094 | 298-02-2 | Phorate |
| P095 | 75-44-5 | Phosgene |
| P096 | 7803-51-2 | Phosphine |
| P041 | 311-45-5 | Phosphoric acid, diethyl 4-nitrophenyl ester |
| P039 | 298-04-4 | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester |
| P094 | 298-02-2 | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester |
| P044 | 60-51-5 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2- oxoethyl] ester |
| P043 | 55-91-4 | Phosphorofluoridic acid, bis(1-methylethyl) ester |
| P089 | 56-38-2 | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester |
| P040 | 297-97-2 | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester |
| P097 | 52-85-7 | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester |
| P071 | 298-00-0 | Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester |
| P204 | 57-47-6 | Physostigmine. |
| P188 | 57-64-7 | Physostigmine salicylate. |
| P110 | 78-00-2 | Plumbane, tetraethyl- |
| P098 | 151-50-8 | Potassium cyanide |

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| P098 | 151-50-8 | Potassium cyanide K(CN) |
| P099 | 506-61-6 | Potassium silver cyanide |
| P201 | 2631-37-0 | Promecarb |
| P070 | 116-06-3 | Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime |
| P203 | 1646-88-4 | Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl]oxime. |
| P101 | 107-12-0 | Propanenitrile |
| P027 | 542-76-7 | Propanenitrile, 3-chloro- |
| P069 | 75-86-5 | Propanenitrile, 2-hydroxy-2-methyl- |
| P081 | 55-63-0 | 1,2,3-Propanetriol, trinitrate (R) |
| P017 | 598-31-2 | 2-Propanone, 1-bromo- |
| P102 | 107-19-7 | Propargyl alcohol |
| P003 | 107-02-8 | 2-Propenal |
| P005 | 107-18-6 | 2-Propen-1-ol |
| P067 | 75-55-8 | 1,2-Propylenimine |
| P102 | 107-19-7 | 2-Propyn-1-ol |
| P008 | 504-24-5 | 4-Pyridinamine |
| P075 | ¹ 54-11-5 | Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts |
| P204 | 57-47-6 | Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-. |
| P114 | 12039-52-0 | Selenious acid, dithallium(1 +) salt |
| P103 | 630-10-4 | Selenourea |
| P104 | 506-64-9 | Silver cyanide |
| P104 | 506-64-9 | Silver cyanide Ag(CN) |
| P105 | 26628-22-8 | Sodium azide |
| P106 | 143-33-9 | Sodium cyanide |
| P106 | 143-33-9 | Sodium cyanide Na(CN) |
| P108 | ¹ 57-24-9 | Strychnidin-10-one, & salts |
| P018 | 357-57-3 | Strychnidin-10-one, 2,3-dimethoxy- |
| P108 | ¹ 57-24-9 | Strychnine, & salts |

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| P115 | 7446-18-6 | Sulfuric acid, dithallium(1 +) salt |
| P109 | 3689-24-5 | Tetraethyldithiopyrophosphate |
| P110 | 78-00-2 | Tetraethyl lead |
| P111 | 107-49-3 | Tetraethyl pyrophosphate |
| P112 | 509-14-8 | Tetranitromethane (R) |
| P062 | 757-58-4 | Tetraphosphoric acid, hexaethyl ester |
| P113 | 1314-32-5 | Thallic oxide |
| P113 | 1314-32-5 | Thallium oxide $Tl_2 O_3$ |
| P114 | 12039-52-0 | Thallium(I) selenite |
| P115 | 7446-18-6 | Thallium(I) sulfate |
| P109 | 3689-24-5 | Thiodiphosphoric acid, tetraethyl ester |
| P045 | 39196-18-4 | Thiofanox |
| P049 | 541-53-7 | Thioimidodicarbonic diamide $[(H_2 N)C(S)]_2 NH$ |
| P014 | 108-98-5 | Thiophenol |
| P116 | 79-19-6 | Thiosemicarbazide |
| P026 | 5344-82-1 | Thiourea, (2-chlorophenyl)- |
| P072 | 86-88-4 | Thiourea, 1-naphthalenyl- |
| P093 | 103-85-5 | Thiourea, phenyl- |
| P185 | 26419-73-8 | Tirpate. |
| P123 | 8001-35-2 | Toxaphene |
| P118 | 75-70-7 | Trichloromethanethiol |
| P119 | 7803-55-6 | Vanadic acid, ammonium salt |
| P120 | 1314-62-1 | Vanadium oxide $V_2 O_5$ |
| P120 | 1314-62-1 | Vanadium pentoxide |
| P084 | 4549-40-0 | Vinylamine, N-methyl-N-nitroso- |
| P001 | ¹ 81-81-2 | Warfarin, & salts, when present at concentrations greater than 0.3% |
| P205 | 137-30-4 | Zinc, bis(dimethylcarbamodithioato-S,S')-, |
| P121 | 557-21-1 | Zinc cyanide |
| P121 | 557-21-1 | Zinc cyanide $Zn(CN)_2$ |
| P122 | 1314-84-7 | Zinc phosphide $Zn_3 P_2$, when present at concentrations greater than |

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| | | 10% (R,T) |
| P205 | 137-30-4 | Ziram. |
| P001 | ¹ 81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3% |
| P001 | ¹ 81-81-2 | Warfarin, & salts, when present at concentrations greater than 0.3% |
| P002 | 591-08-2 | Acetamide, -(aminothioxomethyl)- |
| P002 | 591-08-2 | 1-Acetyl-2-thiourea |
| P003 | 107-02-8 | Acrolein |
| P003 | 107-02-8 | 2-Propenal |
| P004 | 309-00-2 | Aldrin |
| P004 | 309-00-2 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)- |
| P005 | 107-18-6 | Allyl alcohol |
| P005 | 107-18-6 | 2-Propen-1-ol |
| P006 | 20859-73-8 | Aluminum phosphide (R,T) |
| P007 | 2763-96-4 | 5-(Aminomethyl)-3-isoxazolol |
| P007 | 2763-96-4 | 3(2H)-Isoxazolone, 5-(aminomethyl)- |
| P008 | 504-24-5 | 4-Aminopyridine |
| P008 | 504-24-5 | 4-Pyridinamine |
| P009 | 131-74-8 | Ammonium picrate (R) |
| P009 | 131-74-8 | Phenol, 2,4,6-trinitro-, ammonium salt (R) |
| P010 | 7778-39-4 | Arsenic acid H ₃ AsO ₄ |
| P011 | 1303-28-2 | Arsenic oxide As ₂ O ₅ |
| P011 | 1303-28-2 | Arsenic pentoxide |
| P012 | 1327-53-3 | Arsenic oxide As ₂ O ₃ |
| P012 | 1327-53-3 | Arsenic trioxide |
| P013 | 542-62-1 | Barium cyanide |
| P014 | 108-98-5 | Benzenethiol |
| P014 | 108-98-5 | Thiophenol |
| P015 | 7440-41-7 | Beryllium powder |

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| P016 | 542-88-1 | Dichloromethyl ether |
| P016 | 542-88-1 | Methane, oxybis[chloro- |
| P017 | 598-31-2 | Bromoacetone |
| P017 | 598-31-2 | 2-Propanone, 1-bromo- |
| P018 | 357-57-3 | Brucine |
| P018 | 357-57-3 | Strychnidin-10-one, 2,3-dimethoxy- |
| P020 | 88-85-7 | Dinoseb |
| P020 | 88-85-7 | Phenol, 2-(1-methylpropyl)-4,6-dinitro- |
| P021 | 592-01-8 | Calcium cyanide |
| P021 | 592-01-8 | Calcium cyanide $\text{Ca}(\text{CN})_2$ |
| P022 | 75-15-0 | Carbon disulfide |
| P023 | 107-20-0 | Acetaldehyde, chloro- |
| P023 | 107-20-0 | Chloroacetaldehyde |
| P024 | 106-47-8 | Benzenamine, 4-chloro- |
| P024 | 106-47-8 | p-Chloroaniline |
| P026 | 5344-82-1 | 1-(o-Chlorophenyl)thiourea |
| P026 | 5344-82-1 | Thiourea, (2-chlorophenyl)- |
| P027 | 542-76-7 | 3-Chloropropionitrile |
| P027 | 542-76-7 | Propanenitrile, 3-chloro- |
| P028 | 100-44-7 | Benzene, (chloromethyl)- |
| P028 | 100-44-7 | Benzyl chloride |
| P029 | 544-92-3 | Copper cyanide |
| P029 | 544-92-3 | Copper cyanide $\text{Cu}(\text{CN})$ |
| P030 | | Cyanides (soluble cyanide salts), not otherwise specified |
| P031 | 460-19-5 | Cyanogen |
| P031 | 460-19-5 | Ethanedinitrile |
| P033 | 506-77-4 | Cyanogen chloride |
| P033 | 506-77-4 | Cyanogen chloride $(\text{CN})\text{Cl}$ |
| P034 | 131-89-5 | 2-Cyclohexyl-4,6-dinitrophenol |
| P034 | 131-89-5 | Phenol, 2-cyclohexyl-4,6-dinitro- |

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| P036 | 696-28-6 | Arsonous dichloride, phenyl- |
| P036 | 696-28-6 | Dichlorophenylarsine |
| P037 | 60-57-1 | Dieldrin |
| P037 | 60-57-1 | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)- |
| P038 | 692-42-2 | Arsine, diethyl- |
| P038 | 692-42-2 | Diethylarsine |
| P039 | 298-04-4 | Disulfoton |
| P039 | 298-04-4 | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester |
| P040 | 297-97-2 | O,O-Diethyl O-pyrazinyl phosphorothioate |
| P040 | 297-97-2 | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester |
| P041 | 311-45-5 | Diethyl-p-nitrophenyl phosphate |
| P041 | 311-45-5 | Phosphoric acid, diethyl 4-nitrophenyl ester |
| P042 | 51-43-4 | 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)- |
| P042 | 51-43-4 | Epinephrine |
| P043 | 55-91-4 | Diisopropylfluorophosphate (DFP) |
| P043 | 55-91-4 | Phosphorofluoridic acid, bis(1-methylethyl) ester |
| P044 | 60-51-5 | Dimethoate |
| P044 | 60-51-5 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methyl amino)-2-oxoethyl] ester |
| P045 | 39196-18-4 | 2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime |
| P045 | 39196-18-4 | Thiofanox |
| P046 | 122-09-8 | Benzeneethanamine, alpha,alpha-dimethyl- |
| P046 | 122-09-8 | alpha,alpha-Dimethylphenethylamine |
| P047 | ¹ 534-52-1 | 4,6-Dinitro-o-cresol, & salts |
| P047 | ¹ 534-52-1 | Phenol, 2-methyl-4,6-dinitro-, & salts |
| P048 | 51-28-5 | 2,4-Dinitrophenol |
| P048 | 51-28-5 | Phenol, 2,4-dinitro- |
| P049 | 541-53-7 | Dithiobiuret |

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|------|----------------------|---|
| P049 | 541-53-7 | Thioimidodicarbonic diamide [(H ₂ N)C(S)] ₂ NH |
| P050 | 115-29-7 | Endosulfan |
| P050 | 115-29-7 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide |
| P051 | ¹ 72-20-8 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites |
| P051 | 72-20-8 | Endrin |
| P051 | 72-20-8 | Endrin, & metabolites |
| P054 | 151-56-4 | Aziridine |
| P054 | 151-56-4 | Ethyleneimine |
| P056 | 7782-41-4 | Fluorine |
| P057 | 640-19-7 | Acetamide, 2-fluoro- |
| P057 | 640-19-7 | Fluoroacetamide |
| P058 | 62-74-8 | Acetic acid, fluoro-, sodium salt |
| P058 | 62-74-8 | Fluoroacetic acid, sodium salt |
| P059 | 76-44-8 | Heptachlor |
| P059 | 76-44-8 | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- |
| P060 | 465-73-6 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)- |
| P060 | 465-73-6 | Isodrin |
| P062 | 757-58-4 | Hexaethyl tetraphosphate |
| P062 | 757-58-4 | Tetraphosphoric acid, hexaethyl ester |
| P063 | 74-90-8 | Hydrocyanic acid |
| P063 | 74-90-8 | Hydrogen cyanide |
| P064 | 624-83-9 | Methane, isocyanato- |
| P064 | 624-83-9 | Methyl isocyanate |
| P065 | 628-86-4 | Fulminic acid, mercury(2 +) salt (R,T) |
| P065 | 628-86-4 | Mercury fulminate (R,T) |
| P066 | 16752-77-5 | Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl |

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| | | ester |
| P066 | 16752-77-5 | Methomyl |
| P067 | 75-55-8 | Aziridine, 2-methyl- |
| P067 | 75-55-8 | 1,2-Propylenimine |
| P068 | 60-34-4 | Hydrazine, methyl- |
| P068 | 60-34-4 | Methyl hydrazine |
| P069 | 75-86-5 | 2-Methylactonitrile |
| P069 | 75-86-5 | Propanenitrile, 2-hydroxy-2-methyl- |
| P070 | 116-06-3 | Aldicarb |
| P070 | 116-06-3 | Propanal, 2-methyl-2-(methylthio)-, O- [(methylamino)carbonyl]oxime |
| P071 | 298-00-0 | Methyl parathion |
| P071 | 298-00-0 | Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester |
| P072 | 86-88-4 | alpha-Naphthylthiourea |
| P072 | 86-88-4 | Thiourea, 1-naphthalenyl- |
| P073 | 13463-39-3 | Nickel carbonyl |
| P073 | 13463-39-3 | Nickel carbonyl Ni(CO) ₄ , (T-4)- |
| P074 | 557-19-7 | Nickel cyanide |
| P074 | 557-19-7 | Nickel cyanide Ni(CN) ₂ |
| P075 | ¹ 54-11-5 | Nicotine, & salts |
| P075 | ¹ 54-11-5 | Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts |
| P076 | 10102-43-9 | Nitric oxide |
| P076 | 10102-43-9 | Nitrogen oxide NO |
| P077 | 100-01-6 | Benzenamine, 4-nitro- |
| P077 | 100-01-6 | p-Nitroaniline |
| P078 | 10102-44-0 | Nitrogen dioxide |
| P078 | 10102-44-0 | Nitrogen oxide NO ₂ |
| P081 | 55-63-0 | Nitroglycerine (R) |
| P081 | 55-63-0 | 1,2,3-Propanetriol, trinitrate (R) |
| P082 | 62-75-9 | Methanamine, -methyl-N-nitroso- |

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| P082 | 62-75-9 | N-Nitrosodimethylamine |
| P084 | 4549-40-0 | N-Nitrosomethylvinylamine |
| P084 | 4549-40-0 | Vinylamine, -methyl-N-nitroso- |
| P085 | 152-16-9 | Diphosphoramidate, octamethyl- |
| P085 | 152-16-9 | Octamethylpyrophosphoramidate |
| P087 | 20816-12-0 | Osmium oxide OsO ₄ , (T-4)- |
| P087 | 20816-12-0 | Osmium tetroxide |
| P088 | 145-73-3 | Endothall |
| P088 | 145-73-3 | 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid |
| P089 | 56-38-2 | Parathion |
| P089 | 56-38-2 | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester |
| P092 | 62-38-4 | Mercury, (acetato-O)phenyl- |
| P092 | 62-38-4 | Phenylmercury acetate |
| P093 | 103-85-5 | Phenylthiourea |
| P093 | 103-85-5 | Thiourea, phenyl- |
| P094 | 298-02-2 | Phorate |
| P094 | 298-02-2 | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester |
| P095 | 75-44-5 | Carbonic dichloride |
| P095 | 75-44-5 | Phosgene |
| P096 | 7803-51-2 | Hydrogen phosphide |
| P096 | 7803-51-2 | Phosphine |
| P097 | 52-85-7 | Famphur |
| P097 | 52-85-7 | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester |
| P098 | 151-50-8 | Potassium cyanide |
| P098 | 151-50-8 | Potassium cyanide K(CN) |
| P099 | 506-61-6 | Argentate(1-), bis(cyano-C)-, potassium |
| P099 | 506-61-6 | Potassium silver cyanide |
| P101 | 107-12-0 | Ethyl cyanide |
| P101 | 107-12-0 | Propanenitrile |

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| P102 | 107-19-7 | Propargyl alcohol |
| P102 | 107-19-7 | 2-Propyn-1-ol |
| P103 | 630-10-4 | Selenourea |
| P104 | 506-64-9 | Silver cyanide |
| P104 | 506-64-9 | Silver cyanide Ag(CN) |
| P105 | 26628-22-8 | Sodium azide |
| P106 | 143-33-9 | Sodium cyanide |
| P106 | 143-33-9 | Sodium cyanide Na(CN) |
| P108 | ¹ 157-24-9 | Strychnidin-10-one, & salts |
| P108 | ¹ 157-24-9 | Strychnine, & salts |
| P109 | 3689-24-5 | Tetraethyldithiopyrophosphate |
| P109 | 3689-24-5 | Thiodiphosphoric acid, tetraethyl ester |
| P110 | 78-00-2 | Plumbane, tetraethyl- |
| P110 | 78-00-2 | Tetraethyl lead |
| P111 | 107-49-3 | Diphosphoric acid, tetraethyl ester |
| P111 | 107-49-3 | Tetraethyl pyrophosphate |
| P112 | 509-14-8 | Methane, tetranitro-(R) |
| P112 | 509-14-8 | Tetranitromethane (R) |
| P113 | 1314-32-5 | Thallic oxide |
| P113 | 1314-32-5 | Thallium oxide Tl ₂ O ₃ |
| P114 | 12039-52-0 | Selenious acid, dithallium(1 +) salt |
| P114 | 12039-52-0 | Tetraethyldithiopyrophosphate |
| P115 | 7446-18-6 | Thiodiphosphoric acid, tetraethyl ester |
| P115 | 7446-18-6 | Plumbane, tetraethyl- |
| P116 | 79-19-6 | Tetraethyl lead |
| P116 | 79-19-6 | Thiosemicarbazide |
| P118 | 75-70-7 | Methanethiol, trichloro- |
| P118 | 75-70-7 | Trichloromethanethiol |
| P119 | 7803-55-6 | Ammonium vanadate |
| P119 | 7803-55-6 | Vanadic acid, ammonium salt |

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| P120 | 1314-62-1 | Vanadium oxide V_2O_5 |
| P120 | 1314-62-1 | Vanadium pentoxide |
| P121 | 557-21-1 | Zinc cyanide |
| P121 | 557-21-1 | Zinc cyanide $Zn(CN)_2$ |
| P122 | 1314-84-7 | Zinc phosphide Zn_3P_2 , when present at concentrations greater than 10% (R,T) |
| P123 | 8001-35-2 | Toxaphene |
| P127 | 1563-66-2 | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate. |
| P127 | 1563-66-2 | Carbofuran |
| P128 | 315-8-4 | Mexacarbate |
| P128 | 315-18-4 | Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester) |
| P185 | 26419-73-8 | 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime. |
| P185 | 26419-73-8 | Tirpate |
| P188 | 57-64-7 | Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1) |
| P188 | 57-64-7 | Physostigmine salicylate |
| P189 | 55285-14-8 | Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester |
| P189 | 55285-14-8 | Carbosulfan |
| P190 | 1129-41-5 | Carbamic acid, methyl-, 3-methylphenyl ester |
| P190 | 1129-41-5 | Metolcarb |
| P191 | 644-64-4 | Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester |
| P191 | 644-64-4 | Dimetilan |
| P192 | 119-38-0 | Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester |
| P192 | 119-38-0 | Isolan |
| P194 | 23135-22-0 | Ethanimidthioic acid, 2-(dimethylamino)-N-[[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester |
| P194 | 23135-22-0 | Oxamyl |
| P196 | 15339-36-3 | Manganese, bis(dimethylcarbamo-dithioato-S,S')-, |

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| P196 | 15339-36-3 | Manganese dimethyldithiocarbamate |
| P197 | 17702-57-7 | Formparanate |
| P197 | 17702-57-7 | Methanimidamide, N,N-dimethyl-N'-[2-methyl-4- [[[(methylamino)carbonyl]oxy]phenyl]- |
| P198 | 23422-53-9 | Formetanate hydrochloride |
| P198 | 23422-53-9 | Methanimidamide, N,N-dimethyl-N'-[3-[[[(methylamino)- carbonyl]oxy]phenyl]-monohydrochloride |
| P199 | 2032-65-7 | Methiocarb |
| P199 | 2032-65-7 | Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate |
| P201 | 2631-37-0 | Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate |
| P201 | 2631-37-0 | Promecarb |
| P202 | 64-00-6 | m-Cumenyl methylcarbamate |
| P202 | 64-00-6 | 3-Isopropylphenyl N-methylcarbamate |
| P202 | 64-00-6 | Phenol, 3-(1-methylethyl)-, methyl carbamate |
| P203 | 1646-88-4 | Aldicarb sulfone |
| P203 | 1646-88-4 | Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime |
| P204 | 57-47-6 | Physostigmine |
| P204 | 57-47-6 | Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)- |
| P205 | 137-30-4 | Zinc, bis(dimethylcarbamoedithioato-S,S')-, |
| P205 | 137-30-4 | Ziram |

\1\ CAS Number given for parent compound only.

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated.

Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number.

| Hazardous waste No. | Chemical abstracts No. | Substance |
|---------------------|------------------------------|-----------|
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|----------|----------------------|---|
| U394 | 30558-43-1 | A2213. |
| U001 | 75-07-0 | Acetaldehyde (I) |
| U034 | 75-87-6 | Acetaldehyde, trichloro- |
| U187 | 62-44-2 | Acetamide, N-(4-ethoxyphenyl)- |
| U005 | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- |
| U240 | ¹ 94-75-7 | Acetic acid, (2,4-dichlorophenoxy)-, salts & esters |
| U112 | 141-78-6 | Acetic acid ethyl ester (I) |
| U144 | 301-04-2 | Acetic acid, lead(2 +) salt |
| U214 | 563-68-8 | Acetic acid, thallium(1 +) salt |
| see F027 | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- |
| U002 | 67-64-1 | Acetone (I) |
| U003 | 75-05-8 | Acetonitrile (I,T) |
| U004 | 98-86-2 | Acetophenone |
| U005 | 53-96-3 | 2-Acetylaminofluorene |
| U006 | 75-36-5 | Acetyl chloride (C,R,T) |
| U007 | 79-06-1 | Acrylamide |
| U008 | 79-10-7 | Acrylic acid (I) |
| U009 | 107-13-1 | Acrylonitrile |
| U011 | 61-82-5 | Amitrole |
| U012 | 62-53-3 | Aniline (I,T) |
| U136 | 75-60-5 | Arsinic acid, dimethyl- |
| U014 | 492-80-8 | Auramine |
| U015 | 115-02-6 | Azaserine |
| U010 | 50-07-7 | Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[aminocarbonyl]oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]- |
| U280 | 101-27-9 | Barban. |

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| U278 | 22781-23-3 | Bendiocarb. |
| U364 | 22961-82-6 | Bendiocarb phenol. |
| U271 | 17804-35-2 | Benomyl. |
| U157 | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| U016 | 225-51-4 | Benz[c]acridine |
| U017 | 98-87-3 | Benzal chloride |
| U192 | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- |
| U018 | 56-55-3 | Benz[a]anthracene |
| U094 | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |
| U012 | 62-53-3 | Benzenamine (I,T) |
| U014 | 492-80-8 | Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl- |
| U049 | 3165-93-3 | Benzenamine, 4-chloro-2-methyl-, hydrochloride |
| U093 | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| U328 | 95-53-4 | Benzenamine, 2-methyl- |
| U353 | 106-49-0 | Benzenamine, 4-methyl- |
| U158 | 101-14-4 | Benzenamine, 4,4'-methylenebis[2-chloro- |
| U222 | 636-21-5 | Benzenamine, 2-methyl-, hydrochloride |
| U181 | 99-55-8 | Benzenamine, 2-methyl-5-nitro- |
| U019 | 71-43-2 | Benzene (I,T) |
| U038 | 510-15-6 | Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester |
| U030 | 101-55-3 | Benzene, 1-bromo-4-phenoxy- |
| U035 | 305-03-3 | Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]- |
| U037 | 108-90-7 | Benzene, chloro- |
| U221 | 25376-45-8 | Benzenediamine, ar-methyl- |

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| U028 | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester |
| U069 | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester |
| U088 | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethyl ester |
| U102 | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester |
| U107 | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester |
| U070 | 95-50-1 | Benzene, 1,2-dichloro- |
| U071 | 541-73-1 | Benzene, 1,3-dichloro- |
| U072 | 106-46-7 | Benzene, 1,4-dichloro- |
| U060 | 72-54-8 | Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro- |
| U017 | 98-87-3 | Benzene, (dichloromethyl)- |
| U223 | 26471-62-5 | Benzene, 1,3-diisocyanatomethyl- (R,T) |
| U239 | 1330-20-7 | Benzene, dimethyl- (I) |
| U201 | 108-46-3 | 1,3-Benzenediol |
| U127 | 118-74-1 | Benzene, hexachloro- |
| U056 | 110-82-7 | Benzene, hexahydro- (I) |
| U220 | 108-88-3 | Benzene, methyl- |
| U105 | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- |
| U106 | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- |
| U055 | 98-82-8 | Benzene, (1-methylethyl)- (I) |
| U169 | 98-95-3 | Benzene, nitro- |
| U183 | 608-93-5 | Benzene, pentachloro- |
| U185 | 82-68-8 | Benzene, pentachloronitro- |
| U020 | 98-09-9 | Benzenesulfonic acid chloride (C,R) |
| U020 | 98-09-9 | Benzenesulfonyl chloride (C,R) |
| U207 | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| U061 | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- |
| U247 | 72-43-5 | Benzene, 1,1'-(2,2,2- |

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| | | trichloroethylidene)bis[4- methoxy- |
| U023 | 98-07-7 | Benzene, (trichloromethyl)- |
| U234 | 99-35-4 | Benzene, 1,3,5-trinitro- |
| U021 | 92-87-5 | Benzidine |
| U278 | 22781-23-3 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate. |
| U364 | 22961-82-6 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, |
| U203 | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| U141 | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| U367 | 1563-38-8 | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl- |
| U090 | 94-58-6 | 1,3-Benzodioxole, 5-propyl- |
| U064 | 189-55-9 | Benzo[rst]pentaphene |
| U248 | ¹ 81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less |
| U022 | 50-32-8 | Benzo[a]pyrene |
| U197 | 106-51-4 | p-Benzoquinone |
| U023 | 98-07-7 | Benzotrichloride (C,R,T) |
| U085 | 1464-53-5 | 2,2'-Bioxirane |
| U021 | 92-87-5 | [1,1'-Biphenyl]-4,4'-diamine |
| U073 | 91-94-1 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- |
| U091 | 119-90-4 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy- |
| U095 | 119-93-7 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- |
| U225 | 75-25-2 | Bromoform |
| U030 | 101-55-3 | 4-Bromophenyl phenyl ether |
| U128 | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- |
| U172 | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| U031 | 71-36-3 | 1-Butanol (I) |
| U159 | 78-93-3 | 2-Butanone (I,T) |

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| U160 | 1338-23-4 | 2-Butanone, peroxide (R,T) |
| U053 | 4170-30-3 | 2-Butenal |
| U074 | 764-41-0 | 2-Butene, 1,4-dichloro- (I,T) |
| U143 | 303-34-4 | 2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]- |
| U031 | 71-36-3 | n-Butyl alcohol (I) |
| U136 | 75-60-5 | Cacodylic acid |
| U032 | 13765-19-0 | Calcium chromate |
| U372 | 10605-21-7 | Carbamic acid, 1H-benzimidazol-2-yl, methyl ester. |
| U271 | 17804-35-2 | Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester. |
| U280 | 101-27-9 | Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester. |
| U238 | 51-79-6 | Carbamic acid, ethyl ester |
| U178 | 615-53-2 | Carbamic acid, methylnitroso-, ethyl ester |
| U373 | 122-42-9 | Carbamic acid, phenyl-, 1-methylethyl ester. |
| U409 | 23564-05-8 | Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester. |
| U097 | 79-44-7 | Carbamic chloride, dimethyl- |
| U389 | 2303-17-5 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester. |
| U387 | 52888-80-9 | Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester. |
| U114 | ¹ 111-54-6 | Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters |
| U062 | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester |

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| U279 | 63-25-2 | Carbaryl. |
| U372 | 10605-21-7 | Carbendazim. |
| U367 | 1563-38-8 | Carbofuran phenol. |
| U215 | 6533-73-9 | Carbonic acid, dithallium(1 +) salt |
| U033 | 353-50-4 | Carbonic difluoride |
| U156 | 79-22-1 | Carbonochloridic acid, methyl ester (I,T) |
| U033 | 353-50-4 | Carbon oxyfluoride (R,T) |
| U211 | 56-23-5 | Carbon tetrachloride |
| U034 | 75-87-6 | Chloral |
| U035 | 305-03-3 | Chlorambucil |
| U036 | 57-74-9 | Chlordane, alpha & gamma isomers |
| U026 | 494-03-1 | Chlornaphazin |
| U037 | 108-90-7 | Chlorobenzene |
| U038 | 510-15-6 | Chlorobenzilate |
| U039 | 59-50-7 | p-Chloro-m-cresol |
| U042 | 110-75-8 | 2-Chloroethyl vinyl ether |
| U044 | 67-66-3 | Chloroform |
| U046 | 107-30-2 | Chloromethyl methyl ether |
| U047 | 91-58-7 | beta-Chloronaphthalene |
| U048 | 95-57-8 | o-Chlorophenol |
| U049 | 3165-93-3 | 4-Chloro-o-toluidine, hydrochloride |
| U032 | 13765-19-0 | Chromic acid H ₂ CrO ₄ , calcium salt |
| U050 | 218-01-9 | Chrysene |
| U051 | | Creosote |
| U052 | 1319-77-3 | Cresol (Cresylic acid) |
| U053 | 4170-30- | Crotonaldehyde |

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| U055 | 98-82-8 | Cumene (I) |
| U246 | 506-68-3 | Cyanogen bromide (CN)Br |
| U197 | 106-51-4 | 2,5-Cyclohexadiene-1,4-dione |
| U056 | 110-82-7 | Cyclohexane (I) |
| U129 | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- |
| U057 | 108-94-1 | Cyclohexanone (I) |
| U130 | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| U058 | 50-18-0 | Cyclophosphamide |
| U240 | ¹ 94-75-7 | 2,4-D, salts & esters |
| U059 | 20830-81-3 | Daunomycin |
| U060 | 72-54-8 | DDD |
| U061 | 50-29-3 | DDT |
| U062 | 2303-16-4 | Diallate |
| U063 | 53-70-3 | Dibenz[a,h]anthracene |
| U064 | 189-55-9 | Dibenzo[a,i]pyrene |
| U066 | 96-12-8 | 1,2-Dibromo-3-chloropropane |
| U069 | 84-74-2 | Dibutyl phthalate |
| U070 | 95-50-1 | o-Dichlorobenzene |
| U071 | 541-73-1 | m-Dichlorobenzene |
| U072 | 106-46-7 | p-Dichlorobenzene |
| U073 | 91-94-1 | 3,3'-Dichlorobenzidine |
| U074 | 764-41-0 | 1,4-Dichloro-2-butene (I,T) |
| U075 | 75-71-8 | Dichlorodifluoromethane |
| U078 | 75-35-4 | 1,1-Dichloroethylene |
| U079 | 156-60-5 | 1,2-Dichloroethylene |
| U025 | 111-44-4 | Dichloroethyl ether |
| U027 | 108-60-1 | Dichloroisopropyl ether |

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| U024 | 111-91-1 | Dichloromethoxy ethane |
| U081 | 120-83-2 | 2,4-Dichlorophenol |
| U082 | 87-65-0 | 2,6-Dichlorophenol |
| U084 | 542-75-6 | 1,3-Dichloropropene |
| U085 | 1464-53-5 | 1,2:3,4-Diepoxybutane (I,T) |
| U108 | 123-91-1 | 1,4-Diethyleneoxide |
| U028 | 117-81-7 | Diethylhexyl phthalate |
| U395 | 5952-26-1 | Diethylene glycol, dicarbamate. |
| U086 | 1615-80-1 | N,N'-Diethylhydrazine |
| U087 | 3288-58-2 | O,O-Diethyl S-methyl dithiophosphate |
| U088 | 84-66-2 | Diethyl phthalate |
| U089 | 56-53-1 | Diethylstilbesterol |
| U090 | 94-58-6 | Dihydrosafrole |
| U091 | 119-90-4 | 3,3'-Dimethoxybenzidine |
| U092 | 124-40-3 | Dimethylamine (I) |
| U093 | 60-11-7 | p-Dimethylaminoazobenzene |
| U094 | 57-97-6 | 7,12-Dimethylbenz[a]anthracene |
| U095 | 119-93-7 | 3,3'-Dimethylbenzidine |
| U096 | 80-15-9 | alpha,alpha-Dimethylbenzylhydroperoxide (R) |
| U097 | 79-44-7 | Dimethylcarbamoyl chloride |
| U098 | 57-14-7 | 1,1-Dimethylhydrazine |
| U099 | 540-73-8 | 1,2-Dimethylhydrazine |
| U101 | 105-67-9 | 2,4-Dimethylphenol |
| U102 | 131-11-3 | Dimethyl phthalate |
| U103 | 77-78-1 | Dimethyl sulfate |
| U105 | 121-14-2 | 2,4-Dinitrotoluene |
| U106 | 606-20-2 | 2,6-Dinitrotoluene |

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| U107 | 117-84-0 | Di-n-octyl phthalate |
| U108 | 123-91-1 | 1,4-Dioxane |
| U109 | 122-66-7 | 1,2-Diphenylhydrazine |
| U110 | 142-84-7 | Dipropylamine (I) |
| U111 | 621-64-7 | Di-n-propylnitrosamine |
| U041 | 106-89-8 | Epichlorohydrin |
| U001 | 75-07-0 | Ethanal (I) |
| U404 | 121-44-8 | Ethanamine, N,N-diethyl- |
| U174 | 55-18-5 | Ethanamine, N-ethyl-N-nitroso- |
| U155 | 91-80-5 | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- |
| U067 | 106-93-4 | Ethane, 1,2-dibromo- |
| U076 | 75-34-3 | Ethane, 1,1-dichloro- |
| U077 | 107-06-2 | Ethane, 1,2-dichloro- |
| U131 | 67-72-1 | Ethane, hexachloro- |
| U024 | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- |
| U117 | 60-29-7 | Ethane, 1,1'-oxybis-(I) |
| U025 | 111-44-4 | Ethane, 1,1'-oxybis[2-chloro- |
| U184 | 76-01-7 | Ethane, pentachloro- |
| U208 | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| U209 | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| U218 | 62-55-5 | Ethanethioamide |
| U226 | 71-55-6 | Ethane, 1,1,1-trichloro- |
| U227 | 79-00-5 | Ethane, 1,1,2-trichloro- |
| U410 | 59669-26-0 | Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester |
| U394 | 30558-43-1 | Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester. |
| U359 | 110-80-5 | Ethanol, 2-ethoxy- |
| U173 | 1116-54-7 | Ethanol, 2,2'-(nitrosoimino)bis- |

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| U395 | 5952-26-1 | Ethanol, 2,2'-oxybis-, dicarbamate. |
| U004 | 98-86-2 | Ethanone, 1-phenyl- |
| U043 | 75-01-4 | Ethene, chloro- |
| U042 | 110-75-8 | Ethene, (2-chloroethoxy)- |
| U078 | 75-35-4 | Ethene, 1,1-dichloro- |
| U079 | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| U210 | 127-18-4 | Ethene, tetrachloro- |
| U228 | 79-01-6 | Ethene, trichloro- |
| U112 | 141-78-6 | Ethyl acetate (I) |
| U113 | 140-88-5 | Ethyl acrylate (I) |
| U238 | 51-79-6 | Ethyl carbamate (urethane) |
| U117 | 60-29-7 | Ethyl ether (I) |
| U114 | ¹ 111-54-6 | Ethylenebisdithiocarbamic acid, salts & esters |
| U067 | 106-93-4 | Ethylene dibromide |
| U077 | 107-06-2 | Ethylene dichloride |
| U359 | 110-80-5 | Ethylene glycol monoethyl ether |
| U115 | 75-21-8 | Ethylene oxide (I,T) |
| U116 | 96-45-7 | Ethylenethiourea |
| U076 | 75-34-3 | Ethylidene dichloride |
| U118 | 97-63-2 | Ethyl methacrylate |
| U119 | 62-50-0 | Ethyl methanesulfonate |
| U120 | 206-44-0 | Fluoranthene |
| U122 | 50-00-0 | Formaldehyde |
| U123 | 64-18-6 | Formic acid (C,T) |
| U124 | 110-00-9 | Furan (I) |
| U125 | 98-01-1 | 2-Furancarboxaldehyde (I) |
| U147 | 108-31-6 | 2,5-Furandione |
| U213 | 109-99-9 | Furan, tetrahydro-(I) |
| U125 | 98-01-1 | Furfural (I) |

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| U124 | 110-00-9 | Furfuran (I) |
| U206 | 18883-66-4 | Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D- |
| U206 | 18883-66-4 | D-Glucose, 2-deoxy-2-[[[(methylnitrosoamino)-carbonyl]amino]- |
| U126 | 765-34-4 | Glycidylaldehyde |
| U163 | 70-25-7 | Guanidine, N-methyl-N'-nitro-N-nitroso- |
| U127 | 118-74-1 | Hexachlorobenzene |
| U128 | 87-68-3 | Hexachlorobutadiene |
| U130 | 77-47-4 | Hexachlorocyclopentadiene |
| U131 | 67-72-1 | Hexachloroethane |
| U132 | 70-30-4 | Hexachlorophene |
| U243 | 1888-71-7 | Hexachloropropene |
| U133 | 302-01-2 | Hydrazine (R,T) |
| U086 | 1615-80-1 | Hydrazine, 1,2-diethyl- |
| U098 | 57-14-7 | Hydrazine, 1,1-dimethyl- |
| U099 | 540-73-8 | Hydrazine, 1,2-dimethyl- |
| U109 | 122-66-7 | Hydrazine, 1,2-diphenyl- |
| U134 | 7664-39-3 | Hydrofluoric acid (C,T) |
| U134 | 7664-39-3 | Hydrogen fluoride (C,T) |
| U135 | 7783-06-4 | Hydrogen sulfide |
| U135 | 7783-06-4 | Hydrogen sulfide H ₂ S |
| U096 | 80-15-9 | Hydroperoxide, 1-methyl-1-phenylethyl- (R) |
| U116 | 96-45-7 | 2-Imidazolidinethione |
| U137 | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| U190 | 85-44-9 | 1,3-Isobenzofurandione |

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| U140 | 78-83-1 | Isobutyl alcohol (I,T) |
| U141 | 120-58-1 | Isosafrole |
| U142 | 143-50-0 | Kepone |
| U143 | 303-34-4 | Lasiocarpine |
| U144 | 301-04-2 | Lead acetate |
| U146 | 1335-32-6 | Lead, bis(acetato-O)tetrahydroxytri- |
| U145 | 7446-27-7 | Lead phosphate |
| U146 | 1335-32-6 | Lead subacetate |
| U129 | 58-89-9 | Lindane |
| U163 | 70-25-7 | MNNG |
| U147 | 108-31-6 | Maleic anhydride |
| U148 | 123-33-1 | Maleic hydrazide |
| U149 | 109-77-3 | Malononitrile |
| U150 | 148-82-3 | Melphalan |
| U151 | 7439-97-6 | Mercury |
| U152 | 126-98-7 | Methacrylonitrile (I, T) |
| U092 | 124-40-3 | Methanamine, N-methyl- (I) |
| U029 | 74-83-9 | Methane, bromo- |
| U045 | 74-87-3 | Methane, chloro- (I, T) |
| U046 | 107-30-2 | Methane, chloromethoxy- |
| U068 | 74-95-3 | Methane, dibromo- |
| U080 | 75-09-2 | Methane, dichloro- |
| U075 | 75-71-8 | Methane, dichlorodifluoro- |
| U138 | 74-88-4 | Methane, iodo- |
| U119 | 62-50-0 | Methanesulfonic acid, ethyl ester |
| U211 | 56-23-5 | Methane, tetrachloro- |
| U153 | 74-93-1 | Methanethiol (I, T) |

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| U225 | 75-25-2 | Methane, tribromo- |
| U044 | 67-66-3 | Methane, trichloro- |
| U121 | 75-69-4 | Methane, trichlorofluoro- |
| U036 | 57-74-9 | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- |
| U154 | 67-56-1 | Methanol (I) |
| U155 | 91-80-5 | Methapyrilene |
| U142 | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- |
| U247 | 72-43-5 | Methoxychlor |
| U154 | 67-56-1 | Methyl alcohol (I) |
| U029 | 74-83-9 | Methyl bromide |
| U186 | 504-60-9 | 1-Methylbutadiene (I) |
| U045 | 74-87-3 | Methyl chloride (I,T) |
| U156 | 79-22-1 | Methyl chlorocarbonate (I,T) |
| U226 | 71-55-6 | Methyl chloroform |
| U157 | 56-49-5 | 3-Methylcholanthrene |
| U158 | 101-14-4 | 4,4'-Methylenebis(2-chloroaniline) |
| U068 | 74-95-3 | Methylene bromide |
| U080 | 75-09-2 | Methylene chloride |
| U159 | 78-93-3 | Methyl ethyl ketone (MEK) (I,T) |
| U160 | 1338-23-4 | Methyl ethyl ketone peroxide (R,T) |
| U138 | 74-88-4 | Methyl iodide |
| U161 | 108-10-1 | Methyl isobutyl ketone (I) |
| U162 | 80-62-6 | Methyl methacrylate (I,T) |
| U161 | 108-10-1 | 4-Methyl-2-pentanone (I) |
| U164 | 56-04-2 | Methylthiouracil |
| U010 | 50-07-7 | Mitomycin C |
| U059 | 20830-81-3 | 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo- |

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| | | hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- |
| U167 | 134-32-7 | 1-Naphthalenamine |
| U168 | 91-59-8 | 2-Naphthalenamine |
| U026 | 494-03-1 | Naphthalenamine, N,N'-bis(2-chloroethyl)- |
| U165 | 91-20-3 | Naphthalene |
| U047 | 91-58-7 | Naphthalene, 2-chloro- |
| U166 | 130-15-4 | 1,4-Naphthalenedione |
| U236 | 72-57-1 | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt |
| U279 | 63-25-2 | 1-Naphthalenol, methylcarbamate. |
| U166 | 130-15-4 | 1,4-Naphthoquinone |
| U167 | 134-32-7 | alpha-Naphthylamine |
| U168 | 91-59-8 | beta-Naphthylamine |
| U217 | 10102-45-1 | Nitric acid, thallium(1 +) salt |
| U169 | 98-95-3 | Nitrobenzene (I,T) |
| U170 | 100-02-7 | p-Nitrophenol |
| U171 | 79-46-9 | 2-Nitropropane (I,T) |
| U172 | 924-16-3 | N-Nitrosodi-n-butylamine |
| U173 | 1116-54-7 | N-Nitrosodiethanolamine |
| U174 | 55-18-5 | N-Nitrosodiethylamine |
| U176 | 759-73-9 | N-Nitroso-N-ethylurea |
| U177 | 684-93-5 | N-Nitroso-N-methylurea |
| U178 | 615-53-2 | N-Nitroso-N-methylurethane |
| U179 | 100-75-4 | N-Nitrosopiperidine |
| U180 | 930-55-2 | N-Nitrosopyrrolidine |
| U181 | 99-55-8 | 5-Nitro-o-toluidine |
| U193 | 1120-71- | 1,2-Oxathiolane, 2,2-dioxide |

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| U058 | 50-18-0 | 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide |
| U115 | 75-21-8 | Oxirane (I,T) |
| U126 | 765-34-4 | Oxiranecarboxyaldehyde |
| U041 | 106-89-8 | Oxirane, (chloromethyl)- |
| U182 | 123-63-7 | Paraldehyde |
| U183 | 608-93-5 | Pentachlorobenzene |
| U184 | 76-01-7 | Pentachloroethane |
| U185 | 82-68-8 | Pentachloronitrobenzene (PCNB) |
| See F027 | 87-86-5 | Pentachlorophenol |
| U161 | 108-10-1 | Pentanol, 4-methyl- |
| U186 | 504-60-9 | 1,3-Pentadiene (I) |
| U187 | 62-44-2 | Phenacetin |
| U188 | 108-95-2 | Phenol |
| U048 | 95-57-8 | Phenol, 2-chloro- |
| U039 | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| U081 | 120-83-2 | Phenol, 2,4-dichloro- |
| U082 | 87-65-0 | Phenol, 2,6-dichloro- |
| U089 | 56-53-1 | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- |
| U101 | 105-67-9 | Phenol, 2,4-dimethyl- |
| U052 | 1319-77-3 | Phenol, methyl- |
| U132 | 70-30-4 | Phenol, 2,2'-methylenebis[3,4,6-trichloro- |
| U411 | 114-26-1 | Phenol, 2-(1-methylethoxy)-, methylcarbamate. |
| U170 | 100-02-7 | Phenol, 4-nitro- |
| See F027 | 87-86-5 | Phenol, pentachloro- |
| See F027 | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- |
| See F027 | 95-95-4 | Phenol, 2,4,5-trichloro- |

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| See F027 | 88-06-2 | Phenol, 2,4,6-trichloro- |
| U150 | 148-82-3 | L-Phenylalanine, 4-[bis(2-chloroethyl)amino]- |
| U145 | 7446-27-7 | Phosphoric acid, lead(2 +) salt (2:3) |
| U087 | 3288-58-2 | Phosphorodithioic acid, O,O-diethyl S-methyl ester |
| U189 | 1314-80-3 | Phosphorus sulfide (R) |
| U190 | 85-44-9 | Phthalic anhydride |
| U191 | 109-06-8 | 2-Picoline |
| U179 | 100-75-4 | Piperidine, 1-nitroso- |
| U192 | 23950-58-5 | Pronamide |
| U194 | 107-10-8 | 1-Propanamine (I,T) |
| U111 | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| U110 | 142-84-7 | 1-Propanamine, N-propyl- (I) |
| U066 | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |
| U083 | 78-87-5 | Propane, 1,2-dichloro- |
| U149 | 109-77-3 | Propanedinitrile |
| U171 | 79-46-9 | Propane, 2-nitro- (I,T) |
| U027 | 108-60-1 | Propane, 2,2'-oxybis[2-chloro- |
| U193 | 1120-71-4 | 1,3-Propane sultone |
| See F027 | 93-72-1 | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- |
| U235 | 126-72-7 | 1-Propanol, 2,3-dibromo-, phosphate (3:1) |
| U140 | 78-83-1 | 1-Propanol, 2-methyl- (I,T) |
| U002 | 67-64-1 | 2-Propanone (I) |
| U007 | 79-06-1 | 2-Propenamide |
| U084 | 542-75-6 | 1-Propene, 1,3-dichloro- |
| U243 | 1888-71-7 | 1-Propene, 1,1,2,3,3,3-hexachloro- |

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| U009 | 107-13-1 | 2-Propenenitrile |
| U152 | 126-98-7 | 2-Propenenitrile, 2-methyl- (I,T) |
| U008 | 79-10-7 | 2-Propenoic acid (I) |
| U113 | 140-88-5 | 2-Propenoic acid, ethyl ester (I) |
| U118 | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |
| U162 | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester (I,T) |
| U373 | 122-42-9 | Propham. |
| U411 | 114-26-1 | Propoxur. |
| U387 | 52888-80-9 | Prosulfocarb. |
| U194 | 107-10-8 | n-Propylamine (I,T) |
| U083 | 78-87-5 | Propylene dichloride |
| U148 | 123-33-1 | 3,6-Pyridazinedione, 1,2-dihydro- |
| U196 | 110-86-1 | Pyridine |
| U191 | 109-06-8 | Pyridine, 2-methyl- |
| U237 | 66-75-1 | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]- |
| U164 | 56-04-2 | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- |
| U180 | 930-55-2 | Pyrrolidine, 1-nitroso- |
| U200 | 50-55-5 | Reserpine |
| U201 | 108-46-3 | Resorcinol |
| U203 | 94-59-7 | Safrole |
| U204 | 7783-00-8 | Selenious acid |
| U204 | 7783-00-8 | Selenium dioxide |
| U205 | 7488-56-4 | Selenium sulfide |
| U205 | 7488-56-4 | Selenium sulfide SeS ₂ (R,T) |
| U015 | 115-02-6 | L-Serine, diazoacetate (ester) |

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| See F027 | 93-72-1 | Silvex (2,4,5-TP) |
| U206 | 18883-66-4 | Streptozotocin |
| U103 | 77-78-1 | Sulfuric acid, dimethyl ester |
| U189 | 1314-80-3 | Sulfur phosphide (R) |
| See F027 | 93-76-5 | 2,4,5-T |
| U207 | 95-94-3 | 1,2,4,5-Tetrachlorobenzene |
| U208 | 630-20-6 | 1,1,1,2-Tetrachloroethane |
| U209 | 79-34-5 | 1,1,2,2-Tetrachloroethane |
| U210 | 127-18-4 | Tetrachloroethylene |
| See F027 | 58-90-2 | 2,3,4,6-Tetrachlorophenol |
| U213 | 109-99-9 | Tetrahydrofuran (I) |
| U214 | 563-68-8 | Thallium(I) acetate |
| U215 | 6533-73-9 | Thallium(I) carbonate |
| U216 | 7791-12-0 | Thallium(I) chloride |
| U216 | 7791-12-0 | thallium chloride TlCl |
| U217 | 10102-45-1 | Thallium(I) nitrate |
| U218 | 62-55-5 | Thioacetamide |
| U410 | 59669-26-0 | Thiodicarb. |
| U153 | 74-93-1 | Thiomethanol (I,T) |
| U244 | 137-26-8 | Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl- |
| U409 | 23564-05-8 | Thiophanate-methyl. |
| U219 | 62-56-6 | Thiourea |
| U244 | 137-26-8 | Thiram |
| U220 | 108-88-3 | Toluene |

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| U221 | 25376-45-8 | Toluenediamine |
| U223 | 26471-62-5 | Toluene diisocyanate (R,T) |
| U328 | 95-53-4 | o-Toluidine |
| U353 | 106-49-0 | p-Toluidine |
| U222 | 636-21-5 | o-Toluidine hydrochloride |
| U389 | 2303-17-5 | Triallate. |
| U011 | 61-82-5 | 1H-1,2,4-Triazol-3-amine |
| U226 | 71-55-6 | 1,1,1-Trichloroethane |
| U227 | 79-00-5 | 1,1,2-Trichloroethane |
| U228 | 79-01-6 | Trichloroethylene |
| U121 | 75-69-4 | Trichloromonofluoromethane |
| See F027 | 95-95-4 | 2,4,5-Trichlorophenol |
| See F027 | 88-06-2 | 2,4,6-Trichlorophenol |
| U404 | 121-44-8 | Triethylamine. |
| U234 | 99-35-4 | 1,3,5-Trinitrobenzene (R,T) |
| U182 | 123-63-7 | 1,3,5-Trioxane, 2,4,6-trimethyl- |
| U235 | 126-72-7 | Tris(2,3-dibromopropyl) phosphate |
| U236 | 72-57-1 | Trypan blue |
| U237 | 66-75-1 | Uracil mustard |
| U176 | 759-73-9 | Urea, N-ethyl-N-nitroso- |
| U177 | 684-93-5 | Urea, N-methyl-N-nitroso- |
| U043 | 75-01-4 | Vinyl chloride |
| U248 | ¹ 81-81-2 | Warfarin, & salts, when present at concentrations of 0.3% or less |
| U239 | 1330-20-7 | Xylene (I) |
| U200 | 50-55-5 | Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)- |

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| U249 | 1314-84-7 | Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less |
| U001 | 75-07-0 | Acetaldehyde (I) |
| U001 | 75-07-0 | Ethanal (I) |
| U002 | 67-64-1 | Acetone (I) |
| U002 | 67-64-1 | 2-Propanone (I) |
| U003 | 75-05-8 | Acetonitrile (I,T) |
| U004 | 98-86-2 | Acetophenone |
| U004 | 98-86-2 | Ethanone, 1-phenyl- |
| U005 | 53-96-3 | Acetamide, -9H-fluoren-2-yl- |
| U005 | 53-96-3 | 2-Acetylaminofluorene |
| U006 | 75-36-5 | Acetyl chloride (C,R,T) |
| U007 | 79-06-1 | Acrylamide |
| U007 | 79-06-1 | 2-Propenamide |
| U008 | 79-10-7 | Acrylic acid (I) |
| U008 | 79-10-7 | 2-Propenoic acid (I) |
| U009 | 107-13-1 | Acrylonitrile |
| U009 | 107-13-1 | 2-Propenenitrile |
| U010 | 50-07-7 | Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta, 8aalpha, 8balpha)]- |
| U010 | 50-07-7 | Mitomycin C |
| U011 | 61-82-5 | Amitrole |
| U011 | 61-82-5 | 1H-1,2,4-Triazol-3-amine |
| U012 | 62-53-3 | Aniline (I,T) |
| U012 | 62-53-3 | Benzenamine (I,T) |
| U014 | 492-80-8 | Auramine |
| U014 | 492-80-8 | Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl- |

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| U015 | 115-02-6 | Azaserine |
| U015 | 115-02-6 | L-Serine, diazoacetate (ester) |
| U016 | 225-51-4 | Benz[c]acridine |
| U017 | 98-87-3 | Benzal chloride |
| U017 | 98-87-3 | Benzene, (dichloromethyl)- |
| U018 | 56-55-3 | Benz[a]anthracene |
| U019 | 71-43-2 | Benzene (I,T) |
| U020 | 98-09-9 | Benzenesulfonic acid chloride (C,R) |
| U020 | 98-09-9 | Benzenesulfonyl chloride (C,R) |
| U021 | 92-87-5 | Benzidine |
| U021 | 92-87-5 | [1,1'-Biphenyl]-4,4'-diamine |
| U022 | 50-32-8 | Benzo[a]pyrene |
| U023 | 98-07-7 | Benzene, (trichloromethyl)- |
| U023 | 98-07-7 | Benzotrichloride (C,R,T) |
| U024 | 111-91-1 | Dichloromethoxy ethane |
| U024 | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- |
| U025 | 111-44-4 | Dichloroethyl ether |
| U025 | 111-44-4 | Ethane, 1,1'-oxybis[2-chloro- |
| U026 | 494-03-1 | Chlornaphazin |
| U026 | 494-03-1 | Naphthalenamine, N,N'-bis(2-chloroethyl)- |
| U027 | 108-60-1 | Dichloroisopropyl ether |
| U027 | 108-60-1 | Propane, 2,2'-oxybis[2-chloro- |
| U028 | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester |
| U028 | 117-81-7 | Diethylhexyl phthalate |
| U029 | 74-83-9 | Methane, bromo- |
| U029 | 74-83-9 | Methyl bromide |
| U030 | 101-55-3 | Benzene, 1-bromo-4-phenoxy- |
| U030 | 101-55-3 | 4-Bromophenyl phenyl ether |
| U031 | 71-36-3 | 1-Butanol (I) |

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| U031 | 71-36-3 | n-Butyl alcohol (I) |
| U032 | 13765-19-0 | Calcium chromate |
| U032 | 13765-19-0 | Chromic acid H ₂ CrO ₄ , calcium salt |
| U033 | 353-50-4 | Carbonic difluoride |
| U033 | 353-50-4 | Carbon oxyfluoride (R,T) |
| U034 | 75-87-6 | Acetaldehyde, trichloro- |
| U034 | 75-87-6 | Chloral |
| U035 | 305-03-3 | Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]- |
| U035 | 305-03-3 | Chlorambucil |
| U036 | 57-74-9 | Chlordane, alpha & gamma isomers |
| U036 | 57-74-9 | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- |
| U037 | 108-90-7 | Benzene, chloro- |
| U037 | 108-90-7 | Chlorobenzene |
| U038 | 510-15-6 | Benzenecetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester |
| U038 | 510-15-6 | Chlorobenzilate |
| U039 | 59-50-7 | p-Chloro-m-cresol |
| U039 | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| U041 | 106-89-8 | Epichlorohydrin |
| U041 | 106-89-8 | Oxirane, (chloromethyl)- |
| U042 | 110-75-8 | 2-Chloroethyl vinyl ether |
| U042 | 110-75-8 | Ethene, (2-chloroethoxy)- |
| U043 | 75-01-4 | Ethene, chloro- |
| U043 | 75-01-4 | Vinyl chloride |
| U044 | 67-66-3 | Chloroform |
| U044 | 67-66-3 | Methane, trichloro- |
| U045 | 74-87-3 | Methane, chloro- (I,T) |
| U045 | 74-87-3 | Methyl chloride (I,T) |

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| U046 | 107-30-2 | Chloromethyl methyl ether |
| U046 | 107-30-2 | Methane, chloromethoxy- |
| U047 | 91-58-7 | beta-Chloronaphthalene |
| U047 | 91-58-7 | Naphthalene, 2-chloro- |
| U048 | 95-57-8 | o-Chlorophenol |
| U048 | 95-57-8 | Phenol, 2-chloro- |
| U049 | 3165-93-3 | Benzenamine, 4-chloro-2-methyl-, hydrochloride |
| U049 | 3165-93-3 | 4-Chloro-o-toluidine, hydrochloride |
| U050 | 218-01-9 | Chrysene |
| U051 | | Creosote |
| U052 | 1319-77-3 | Cresol (Cresylic acid) |
| U052 | 1319-77-3 | Phenol, methyl- |
| U053 | 4170-30-3 | 2-Butenal |
| U053 | 4170-30-3 | Crotonaldehyde |
| U055 | 98-82-8 | Benzene, (1-methylethyl)-(I) |
| U055 | 98-82-8 | Cumene (I) |
| U056 | 110-82-7 | Benzene, hexahydro-(I) |
| U056 | 110-82-7 | Cyclohexane (I) |
| U057 | 108-94-1 | Cyclohexanone (I) |
| U058 | 50-18-0 | Cyclophosphamide |
| U058 | 50-18-0 | 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide |
| U059 | 20830-81-3 | Daunomycin |
| U059 | 20830-81-3 | 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- |

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| U060 | 72-54-8 | Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro- |
| U060 | 72-54-8 | DDD |
| U061 | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- |
| U061 | 50-29-3 | DDT |
| U062 | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-di chloro-2-propenyl) ester |
| U062 | 2303-16-4 | Diallate |
| U063 | 53-70-3 | Dibenz[a,h]anthracene |
| U064 | 189-55-9 | Benzo[rst]pentaphene |
| U064 | 189-55-9 | Dibenzo[a,i]pyrene |
| U066 | 96-12-8 | 1,2-Dibromo-3-chloropropane |
| U066 | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |
| U067 | 106-93-4 | Ethane, 1,2-dibromo- |
| U067 | 106-93-4 | Ethylene dibromide |
| U068 | 74-95-3 | Methane, dibromo- |
| U068 | 74-95-3 | Methylene bromide |
| U069 | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester |
| U069 | 84-74-2 | Dibutyl phthalate |
| U070 | 95-50-1 | Benzene, 1,2-dichloro- |
| U070 | 95-50-1 | o-Dichlorobenzene |
| U071 | 541-73-1 | Benzene, 1,3-dichloro- |
| U071 | 541-73-1 | m-Dichlorobenzene |
| U072 | 106-46-7 | Benzene, 1,4-dichloro- |
| U072 | 106-46-7 | p-Dichlorobenzene |
| U073 | 91-94-1 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- |
| U073 | 91-94-1 | 3,3'-Dichlorobenzidine |
| U074 | 764-41-0 | 2-Butene, 1,4-dichloro-(I,T) |
| U074 | 764-41-0 | 1,4-Dichloro-2-butene (I,T) |

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| U075 | 75-71-8 | Dichlorodifluoromethane |
| U075 | 75-71-8 | Methane, dichlorodifluoro- |
| U076 | 75-34-3 | Ethane, 1,1-dichloro- |
| U076 | 75-34-3 | Ethylidene dichloride |
| U077 | 107-06-2 | Ethane, 1,2-dichloro- |
| U077 | 107-06-2 | Ethylene dichloride |
| U078 | 75-35-4 | 1,1-Dichloroethylene |
| U078 | 75-35-4 | Ethene, 1,1-dichloro- |
| U079 | 156-60-5 | 1,2-Dichloroethylene |
| U079 | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| U080 | 75-09-2 | Methane, dichloro- |
| U080 | 75-09-2 | Methylene chloride |
| U081 | 120-83-2 | 2,4-Dichlorophenol |
| U081 | 120-83-2 | Phenol, 2,4-dichloro- |
| U082 | 87-65-0 | 2,6-Dichlorophenol |
| U082 | 87-65-0 | Phenol, 2,6-dichloro- |
| U083 | 78-87-5 | Propane, 1,2-dichloro- |
| U083 | 78-87-5 | Propylene dichloride |
| U084 | 542-75-6 | 1,3-Dichloropropene |
| U084 | 542-75-6 | 1-Propene, 1,3-dichloro- |
| U085 | 1464-53-5 | 2,2'-Bioxirane |
| U085 | 1464-53-5 | 1,2:3,4-Diepoxybutane (I,T) |
| U086 | 1615-80-1 | N,N'-Diethylhydrazine |
| U086 | 1615-80-1 | Hydrazine, 1,2-diethyl- |
| U087 | 3288-58-2 | O,O-Diethyl S-methyl dithiophosphate |
| U087 | 3288-58-2 | Phosphorodithioic acid, O,O-diethyl S-methyl ester |

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| U088 | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethyl ester |
| U088 | 84-66-2 | Diethyl phthalate |
| U089 | 56-53-1 | Diethylstilbesterol |
| U089 | 56-53-1 | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- |
| U090 | 94-58-6 | 1,3-Benzodioxole, 5-propyl- |
| U090 | 94-58-6 | Dihydrosafrole |
| U091 | 119-90-4 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy- |
| U091 | 119-90-4 | 3,3'-Dimethoxybenzidine |
| U092 | 124-40-3 | Dimethylamine (I) |
| U092 | 124-40-3 | Methanamine, -methyl-(I) |
| U093 | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| U093 | 60-11-7 | p-Dimethylaminoazobenzene |
| U094 | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |
| U094 | 57-97-6 | 7,12-Dimethylbenz[a]anthracene |
| U095 | 119-93-7 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- |
| U095 | 119-93-7 | 3,3'-Dimethylbenzidine |
| U096 | 80-15-9 | alpha,alpha-Dimethylbenzylhydroperoxide (R) |
| U096 | 80-15-9 | Hydroperoxide, 1-methyl-1-phenylethyl-(R) |
| U097 | 79-44-7 | Carbamic chloride, dimethyl- |
| U097 | 79-44-7 | Dimethylcarbamoyl chloride |
| U098 | 57-14-7 | 1,1-Dimethylhydrazine |
| U098 | 57-14-7 | Hydrazine, 1,1-dimethyl- |
| U099 | 540-73-8 | 1,2-Dimethylhydrazine |
| U099 | 540-73-8 | Hydrazine, 1,2-dimethyl- |
| U101 | 105-67-9 | 2,4-Dimethylphenol |
| U101 | 105-67-9 | Phenol, 2,4-dimethyl- |
| U102 | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester |
| U102 | 131-11-3 | Dimethyl phthalate |
| U103 | 77-78-1 | Dimethyl sulfate |

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| U103 | 77-78-1 | Sulfuric acid, dimethyl ester |
| U105 | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- |
| U105 | 121-14-2 | 2,4-Dinitrotoluene |
| U106 | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- |
| U106 | 606-20-2 | 2,6-Dinitrotoluene |
| U107 | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester |
| U107 | 117-84-0 | Di-n-octyl phthalate |
| U108 | 123-91-1 | 1,4-Diethyleneoxide |
| U108 | 123-91-1 | 1,4-Dioxane |
| U109 | 122-66-7 | 1,2-Diphenylhydrazine |
| U109 | 122-66-7 | Hydrazine, 1,2-diphenyl- |
| U110 | 142-84-7 | Dipropylamine (I) |
| U110 | 142-84-7 | 1-Propanamine, N-propyl-(I) |
| U111 | 621-64-7 | Di-n-propylnitrosamine |
| U111 | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| U112 | 141-78-6 | Acetic acid ethyl ester (I) |
| U112 | 141-78-6 | Ethyl acetate (I) |
| U113 | 140-88-5 | Ethyl acrylate (I) |
| U113 | 140-88-5 | 2-Propenoic acid, ethyl ester (I) |
| U114 | ¹ 111-54-6 | Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters |
| U114 | ¹ 111-54-6 | Ethylenebisdithiocarbamic acid, salts & esters |
| U115 | 75-21-8 | Ethylene oxide (I,T) |
| U115 | 75-21-8 | Oxirane (I,T) |
| U116 | 96-45-7 | Ethylenethiourea |
| U116 | 96-45-7 | 2-Imidazolidinethione |
| U117 | 60-29-7 | Ethane, 1,1'-oxybis-(I) |
| U117 | 60-29-7 | Ethyl ether (I) |
| U118 | 97-63-2 | Ethyl methacrylate |
| U118 | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |

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| U119 | 62-50-0 | Ethyl methanesulfonate |
| U119 | 62-50-0 | Methanesulfonic acid, ethyl ester |
| U120 | 206-44-0 | Fluoranthene |
| U121 | 75-69-4 | Methane, trichlorofluoro- |
| U121 | 75-69-4 | Trichloromonofluoromethane |
| U122 | 50-00-0 | Formaldehyde |
| U123 | 64-18-6 | Formic acid (C,T) |
| U124 | 110-00-9 | Furan (I) |
| U124 | 110-00-9 | Furfuran (I) |
| U125 | 98-01-1 | 2-Furancarboxaldehyde (I) |
| U125 | 98-01-1 | Furfural (I) |
| U126 | 765-34-4 | Glycidylaldehyde |
| U126 | 765-34-4 | Oxiranecarboxyaldehyde |
| U127 | 118-74-1 | Benzene, hexachloro- |
| U127 | 118-74-1 | Hexachlorobenzene |
| U128 | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- |
| U128 | 87-68-3 | Hexachlorobutadiene |
| U129 | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- |
| U129 | 58-89-9 | Lindane |
| U130 | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| U130 | 77-47-4 | Hexachlorocyclopentadiene |
| U131 | 67-72-1 | Ethane, hexachloro- |
| U131 | 67-72-1 | Hexachloroethane |
| U132 | 70-30-4 | Hexachlorophene |
| U132 | 70-30-4 | Phenol, 2,2'-methylenebis[3,4,6-trichloro- |
| U133 | 302-01-2 | Hydrazine (R,T) |
| U134 | 7664-39-3 | Hydrofluoric acid (C,T) |
| U134 | 7664-39-3 | Hydrogen fluoride (C,T) |

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| U135 | 7783-06-4 | Hydrogen sulfide |
| U135 | 7783-06-4 | Hydrogen sulfide H ₂ S |
| U136 | 75-60-5 | Arsinic acid, dimethyl- |
| U136 | 75-60-5 | Cacodylic acid |
| U137 | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| U138 | 74-88-4 | Methane, iodo- |
| U138 | 74-88-4 | Methyl iodide |
| U140 | 78-83-1 | Isobutyl alcohol (I,T) |
| U140 | 78-83-1 | 1-Propanol, 2-methyl- (I,T) |
| U141 | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| U141 | 120-58-1 | Isosafrole |
| U142 | 143-50-0 | Kepone |
| U142 | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- |
| U143 | 303-34-4 | 2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]- |
| U143 | 303-34-4 | Lasiocarpine |
| U144 | 301-04-2 | Acetic acid, lead(2 +) salt |
| U144 | 301-04-2 | Lead acetate |
| U145 | 7446-27-7 | Lead phosphate |
| U145 | 7446-27-7 | Phosphoric acid, lead(2 +) salt (2:3) |
| U146 | 1335-32-6 | Lead, bis(acetato-O)tetrahydroxytri- |
| U146 | 1335-32-6 | Lead subacetate |
| U147 | 108-31-6 | 2,5-Furandione |

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| U147 | 108-31-6 | Maleic anhydride |
| U148 | 123-33-1 | Maleic hydrazide |
| U148 | 123-33-1 | 3,6-Pyridazinedione, 1,2-dihydro- |
| U149 | 109-77-3 | Malononitrile |
| U149 | 109-77-3 | Propanedinitrile |
| U150 | 148-82-3 | Melphalan |
| U150 | 148-82-3 | L-Phenylalanine, 4-[bis(2-chloroethyl)amino]- |
| U151 | 7439-97-6 | Mercury |
| U152 | 126-98-7 | Methacrylonitrile (I,T) |
| U152 | 126-98-7 | 2-Propenenitrile, 2-methyl- (I,T) |
| U153 | 74-93-1 | Methanethiol (I,T) |
| U153 | 74-93-1 | Thiomethanol (I,T) |
| U154 | 67-56-1 | Methanol (I) |
| U154 | 67-56-1 | Methyl alcohol (I) |
| U155 | 91-80-5 | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- |
| U155 | 91-80-5 | Methapyrilene |
| U156 | 79-22-1 | Carbonochloridic acid, methyl ester (I,T) |
| U156 | 79-22-1 | Methyl chlorocarbonate (I,T) |
| U157 | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| U157 | 56-49-5 | 3-Methylcholanthrene |
| U158 | 101-14-4 | Benzenamine, 4,4'-methylenebis[2-chloro- |
| U158 | 101-14-4 | 4,4'-Methylenebis(2-chloroaniline) |
| U159 | 78-93-3 | 2-Butanone (I,T) |
| U159 | 78-93-3 | Methyl ethyl ketone (MEK) (I,T) |
| U160 | 1338-23-4 | 2-Butanone, peroxide (R,T) |
| U160 | 1338-23-4 | Methyl ethyl ketone peroxide (R,T) |
| U161 | 108-10-1 | Methyl isobutyl ketone (I) |

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| U161 | 108-10-1 | 4-Methyl-2-pentanone (I) |
| U161 | 108-10-1 | Pentanol, 4-methyl- |
| U162 | 80-62-6 | Methyl methacrylate (I,T) |
| U162 | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester (I,T) |
| U163 | 70-25-7 | Guanidine, -methyl-N'-nitro-N-nitroso- |
| U163 | 70-25-7 | MNNG |
| U164 | 56-04-2 | Methylthiouracil |
| U164 | 56-04-2 | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- |
| U165 | 91-20-3 | Naphthalene |
| U166 | 130-15-4 | 1,4-Naphthalenedione |
| U166 | 130-15-4 | 1,4-Naphthoquinone |
| U167 | 134-32-7 | 1-Naphthalenamine |
| U167 | 134-32-7 | alpha-Naphthylamine |
| U168 | 91-59-8 | 2-Naphthalenamine |
| U168 | 91-59-8 | beta-Naphthylamine |
| U169 | 98-95-3 | Benzene, nitro- |
| U169 | 98-95-3 | Nitrobenzene (I,T) |
| U170 | 100-02-7 | p-Nitrophenol |
| U170 | 100-02-7 | Phenol, 4-nitro- |
| U171 | 79-46-9 | 2-Nitropropane (I,T) |
| U171 | 79-46-9 | Propane, 2-nitro- (I,T) |
| U172 | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| U172 | 924-16-3 | N-Nitrosodi-n-butylamine |
| U173 | 1116-54-7 | Ethanol, 2,2'-(nitrosoimino)bis- |
| U173 | 1116-54-7 | N-Nitrosodiethanolamine |
| U174 | 55-18-5 | Ethanamine, -ethyl-N-nitroso- |
| U174 | 55-18-5 | N-Nitrosodiethylamine |

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| U176 | 759-73-9 | N-Nitroso-N-ethylurea |
| U176 | 759-73-9 | Urea, N-ethyl-N-nitroso- |
| U177 | 684-93-5 | N-Nitroso-N-methylurea |
| U177 | 684-93-5 | Urea, N-methyl-N-nitroso- |
| U178 | 615-53-2 | Carbamic acid, methylnitroso-, ethyl ester |
| U178 | 615-53-2 | N-Nitroso-N-methylurethane |
| U179 | 100-75-4 | N-Nitrosopiperidine |
| U179 | 100-75-4 | Piperidine, 1-nitroso- |
| U180 | 930-55-2 | N-Nitrosopyrrolidine |
| U180 | 930-55-2 | Pyrrolidine, 1-nitroso- |
| U181 | 99-55-8 | Benzenamine, 2-methyl-5-nitro- |
| U181 | 99-55-8 | 5-Nitro-o-toluidine |
| U182 | 123-63-7 | 1,3,5-Trioxane, 2,4,6-trimethyl- |
| U182 | 123-63-7 | Paraldehyde |
| U183 | 608-93-5 | Benzene, pentachloro- |
| U183 | 608-93-5 | Pentachlorobenzene |
| U184 | 76-01-7 | Ethane, pentachloro- |
| U184 | 76-01-7 | Pentachloroethane |
| U185 | 82-68-8 | Benzene, pentachloronitro- |
| U185 | 82-68-8 | Pentachloronitrobenzene (PCNB) |
| U186 | 504-60-9 | 1-Methylbutadiene (I) |
| U186 | 504-60-9 | 1,3-Pentadiene (I) |
| U187 | 62-44-2 | Acetamide, -(4-ethoxyphenyl)- |
| U187 | 62-44-2 | Phenacetin |
| U188 | 108-95-2 | Phenol |
| U189 | 1314-80-3 | Phosphorus sulfide (R) |
| U189 | 1314-80-3 | Sulfur phosphide (R) |
| U190 | 85-44-9 | 1,3-Isobenzofurandione |
| U190 | 85-44-9 | Phthalic anhydride |

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| U191 | 109-06-8 | 2-Picoline |
| U191 | 109-06-8 | Pyridine, 2-methyl- |
| U192 | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- |
| U192 | 23950-58-5 | Pronamide |
| U193 | 1120-71-4 | 1,2-Oxathiolane, 2,2-dioxide |
| U193 | 1120-71-4 | 1,3-Propane sultone |
| U194 | 107-10-8 | 1-Propanamine (I,T) |
| U194 | 107-10-8 | n-Propylamine (I,T) |
| U196 | 110-86-1 | Pyridine |
| U197 | 106-51-4 | p-Benzoquinone |
| U197 | 106-51-4 | 2,5-Cyclohexadiene-1,4-dione |
| U200 | 50-55-5 | Reserpine |
| U200 | 50-55-5 | Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)- |
| U201 | 108-46-3 | 1,3-Benzenediol |
| U201 | 108-46-3 | Resorcinol |
| U203 | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| U203 | 94-59-7 | Safrole |
| U204 | 7783-00-8 | Selenious acid |
| U204 | 7783-00-8 | Selenium dioxide |
| U205 | 7488-56-4 | Selenium sulfide |
| U205 | 7488-56-4 | Selenium sulfide SeS ₂ (R,T) |
| U206 | 18883-66-4 | Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D- |

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| U206 | 18883-66-4 | D-Glucose, 2-deoxy-2-[[[(methylnitrosoamino)-carbonyl]amino]- |
| U206 | 18883-66-4 | Streptozotocin |
| U207 | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| U207 | 95-94-3 | 1,2,4,5-Tetrachlorobenzene |
| U208 | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| U208 | 630-20-6 | 1,1,1,2-Tetrachloroethane |
| U209 | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| U209 | 79-34-5 | 1,1,2,2-Tetrachloroethane |
| U210 | 127-18-4 | Ethene, tetrachloro- |
| U210 | 127-18-4 | Tetrachloroethylene |
| U211 | 56-23-5 | Carbon tetrachloride |
| U211 | 56-23-5 | Methane, tetrachloro- |
| U213 | 109-99-9 | Furan, tetrahydro-(I) |
| U213 | 109-99-9 | Tetrahydrofuran (I) |
| U214 | 563-68-8 | Acetic acid, thallium(1 +) salt |
| U214 | 563-68-8 | Thallium(I) acetate |
| U215 | 6533-73-9 | Carbonic acid, dithallium(1 +) salt |
| U215 | 6533-73-9 | Thallium(I) carbonate |
| U216 | 7791-12-0 | Thallium(I) chloride |
| U216 | 7791-12-0 | Thallium chloride TlCl |
| U217 | 10102-45-1 | Nitric acid, thallium(1 +) salt |
| U217 | 10102-45-1 | Thallium(I) nitrate |
| U218 | 62-55-5 | Ethanethioamide |
| U218 | 62-55-5 | Thioacetamide |
| U219 | 62-56-6 | Thiourea |

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| U220 | 108-88-3 | Benzene, methyl- |
| U220 | 108-88-3 | Toluene |
| U221 | 25376-45-8 | Benzenediamine, ar-methyl- |
| U221 | 25376-45-8 | Toluenediamine |
| U222 | 636-21-5 | Benzenamine, 2-methyl-, hydrochloride |
| U222 | 636-21-5 | o-Toluidine hydrochloride |
| U223 | 26471-62-5 | Benzene, 1,3-diisocyanatomethyl- (R,T) |
| U223 | 26471-62-5 | Toluene diisocyanate (R,T) |
| U225 | 75-25-2 | Bromoform |
| U225 | 75-25-2 | Methane, tribromo- |
| U226 | 71-55-6 | Ethane, 1,1,1-trichloro- |
| U226 | 71-55-6 | Methyl chloroform |
| U226 | 71-55-6 | 1,1,1-Trichloroethane |
| U227 | 79-00-5 | Ethane, 1,1,2-trichloro- |
| U227 | 79-00-5 | 1,1,2-Trichloroethane |
| U228 | 79-01-6 | Ethene, trichloro- |
| U228 | 79-01-6 | Trichloroethylene |
| U234 | 99-35-4 | Benzene, 1,3,5-trinitro- |
| U234 | 99-35-4 | 1,3,5-Trinitrobenzene (R,T) |
| U235 | 126-72-7 | 1-Propanol, 2,3-dibromo-, phosphate (3:1) |
| U235 | 126-72-7 | Tris(2,3-dibromopropyl) phosphate |
| U236 | 72-57-1 | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt |
| U236 | 72-57-1 | Trypan blue |
| U237 | 66-75-1 | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]- |
| U237 | 66-75-1 | Uracil mustard |

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| U238 | 51-79-6 | Carbamic acid, ethyl ester |
| U238 | 51-79-6 | Ethyl carbamate (urethane) |
| U239 | 1330-20-7 | Benzene, dimethyl- (I,T) |
| U239 | 1330-20-7 | Xylene (I) |
| U240 | ¹ 94-75-7 | Acetic acid, (2,4-dichlorophenoxy)-, salts & esters |
| U240 | ¹ 94-75-7 | 2,4-D, salts & esters |
| U243 | 1888-71-7 | Hexachloropropene |
| U243 | 1888-71-7 | 1-Propene, 1,1,2,3,3,3-hexachloro- |
| U244 | 137-26-8 | Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl- |
| U244 | 137-26-8 | Thiram |
| U246 | 506-68-3 | Cyanogen bromide (CN)Br |
| U247 | 72-43-5 | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- methoxy- |
| U247 | 72-43-5 | Methoxychlor |
| U248 | ¹ 81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less |
| U248 | ¹ 81-81-2 | Warfarin, & salts, when present at concentrations of 0.3% or less |
| U249 | 1314-84-7 | Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less |
| U271 | 17804-35-2 | Benomyl |
| U271 | 17804-35-2 | Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester |
| U278 | 22781-23-3 | Bendiocarb |
| U278 | 22781-23-3 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate |

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| U279 | 63-25-2 | Carbaryl |
| U279 | 63-25-2 | 1-Naphthalenol, methylcarbamate |
| U280 | 101-27-9 | Barban |
| U280 | 101-27-9 | Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester |
| U328 | 95-53-4 | Benzenamine, 2-methyl- |
| U328 | 95-53-4 | o-Toluidine |
| U353 | 106-49-0 | Benzenamine, 4-methyl- |
| U353 | 106-49-0 | p-Toluidine |
| U359 | 110-80-5 | Ethanol, 2-ethoxy- |
| U359 | 110-80-5 | Ethylene glycol monoethyl ether |
| U364 | 22961-82-6 | Bendiocarb phenol |
| U364 | 22961-82-6 | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, |
| U367 | 1563-38-8 | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl- |
| U367 | 1563-38-8 | Carbofuran phenol |
| U372 | 10605-21-7 | Carbamic acid, 1H-benzimidazol-2-yl, methyl ester |
| U372 | 10605-21-7 | Carbendazim |
| U373 | 122-42-9 | Carbamic acid, phenyl-, 1-methylethyl ester |
| U373 | 122-42-9 | Propham |
| U387 | 52888-80-9 | Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester |
| U387 | 52888-80-9 | Prosulfocarb |
| U389 | 2303-17-5 | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester |
| U389 | 2303-17-5 | Triallate |
| U394 | 30558- | A2213 |

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| | 43-1 | |
| U394 | 30558-43-1 | Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester |
| U395 | 5952-26-1 | Diethylene glycol, dicarbamate |
| U395 | 5952-26-1 | Ethanol, 2,2'-oxybis-, dicarbamate |
| U404 | 121-44-8 | Ethanamine, N,N-diethyl- |
| U404 | 121-44-8 | Triethylamine |
| U409 | 23564-05-8 | Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester |
| U409 | 23564-05-8 | Thiophanate-methyl |
| U410 | 59669-26-0 | Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester |
| U410 | 59669-26-0 | Thiodicarb |
| U411 | 114-26-1 | Phenol, 2-(1-methylethoxy)-, methylcarbamate |
| U411 | 114-26-1 | Propoxur |
| See F027 | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- |
| See F027 | 87-86-5 | Pentachlorophenol |
| See F027 | 87-86-5 | Phenol, pentachloro- |
| See F027 | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- |
| See F027 | 95-95-4 | Phenol, 2,4,5-trichloro- |
| See F027 | 88-06-2 | Phenol, 2,4,6-trichloro- |
| See F027 | 93-72-1 | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- |
| See F027 | 93-72-1 | Silvex (2,4,5-TP) |
| See F027 | 93-76-5 | 2,4,5-T |
| See F027 | 58-90-2 | 2,3,4,6-Tetrachlorophenol |
| See F027 | 95-95-4 | 2,4,5-Trichlorophenol |
| See F027 | 88-06-2 | 2,4,6-Trichlorophenol |

\1\ CAS Number given for parent compound only.

§ 261.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement

(a) Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of paragraphs (b) and (c) of this section. These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one or more of the hazardous waste characteristics.

(b) Generators must either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts, and trams, in a manner that minimizes or eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage, or hazardous waste decomposition products to the ground water, surface water, or atmosphere.

(1) Generators shall do one of the following:

(i) Prepare and follow an equipment cleaning plan and clean equipment in accordance with this section;

(ii) Prepare and follow an equipment replacement plan and replace equipment in accordance with this section; or

(iii) Document cleaning and replacement in accordance with this section, carried out after termination of use of chlorophenolic preservations.

(2) Cleaning Requirements.

(i) Prepare and sign a written equipment cleaning plan that describes:

(A) The equipment to be cleaned;

(B) How the equipment will be cleaned;

(C) The solvent to be used in cleaning;

(D) How solvent rinses will be tested; and

(E) How cleaning residues will be disposed.

(ii) Equipment must be cleaned as follows:

(A) Remove all visible residues from process equipment;

(B) Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

(iii) Analytical requirements.

(A) Rinses must be tested by using an appropriate method..

(B) “Not detected” means at or below the following lower method calibration limits (MCLs): The 2,3,7,8-TCDD-based MCL — 0.01 parts per trillion (ppt), sample weight of 1000 g, IS spiking level of 1 ppt, final extraction volume of 10–50 uL. For other congeners — multiply the values by 1 for TCDF/PeCDD/PeCDF, by 2.5 for HxCDD/HxCDF/ HpCDD/HpCDF, and by 5 for OCDD/OCDF.

(iv) The generator must manage all residues from the cleaning process as F032 waste.

(3) Replacement requirements.

(i) Prepare and sign a written equipment replacement plan that describes:

(A) The equipment to be replaced;

(B) How the equipment will be replaced;

- (C) How the equipment will be disposed.
- (ii) The generator must manage the discarded equipment as F032 waste.
- (4) Documentation requirements.
 - (i) Document that previous equipment cleaning and/or replacement was performed in accordance with this section and occurred after cessation of use of chlorophenolic preservatives.
- (c) The generator must maintain the following records documenting the cleaning and replacement as part of the facility's operating record:
 - (1) The name and address of the facility;
 - (2) Formulations previously used and the date on which their use ceased in each process at the plant;
 - (3) Formulations currently used in each process at the plant;
 - (4) The equipment cleaning or replacement plan;
 - (5) The name and address of any persons who conducted the cleaning and replacement;
 - (6) The dates on which cleaning and replacement were accomplished;
 - (7) The dates of sampling and testing;
 - (8) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples;
 - (9) A description of the tests performed, the date the tests were performed, and the results of the tests;
 - (10) The name and model numbers of the instrument(s) used in performing the tests;
 - (11) QA/QC documentation; and
 - (12) The following statement signed by the generator or his authorized representative:

"I certify under penalty of law that all process equipment required to be cleaned or replaced under 40 CFR 261.35 was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment."

§ 261.36 [Reserved]

§ 261.37 [Reserved]

Subsection E—Exclusions/Exemptions

§ 261.38 [Reserved]

§ 261.39 Conditional Exclusion for Used, Broken Cathode Ray Tubes (CRTs) and Processed CRT Glass Undergoing Recycling

Used, broken CRTs are not solid wastes if they meet the following conditions:

- (a) Prior to processing: These materials are not solid wastes if they are destined for recycling and if they meet the following requirements:
 - (1) Storage. The broken CRTs must be either:

- (i) Stored in a building with a roof, floor, and walls, or
- (ii) Placed in a container (i.e., a package or a vehicle) that is constructed, filled, and closed to minimize releases to the environment of CRT glass (including fine solid materials).

(2) Labeling. Each container in which the used, broken CRT is contained must be labeled or marked clearly with one of the following phrases: "Used cathode ray tube(s)-contains leaded glass" or "Leaded glass from televisions or computers." It must also be labeled: "Do not mix with other glass materials."

(3) Transportation. The used, broken CRTs must be transported in a container meeting the requirements of paragraphs (a)(1)(ii) and (2) of this section.

(4) Speculative accumulation and use constituting disposal. The used, broken CRTs are subject to the limitations on speculative accumulation as defined in paragraph (c)(8) of this section. If they are used in a manner constituting disposal, they must comply with the applicable requirements of Section 266, Subsection C of this rule instead of the requirements of this section.

(5) Exports. In addition to the applicable conditions specified in paragraphs (a)(1)-(4) of this section, exporters of used, broken CRTs must comply with the following requirements:

- (i) Notify the U.S. EPA of an intended export before the CRTs are scheduled to leave the United States. A complete notification should be submitted sixty (60) days before the initial shipment is intended to be shipped off-site. This notification may cover export activities extending over a twelve (12) month or lesser period. The notification must be in writing, signed by the exporter, and include the following information:

- (A) Name, mailing address, telephone number and EPA ID number (if applicable) of the exporter of the CRTs.

- (B) The estimated frequency or rate at which the CRTs are to be exported and the period of time over which they are to be exported.

- (C) The estimated total quantity of CRTs specified in kilograms.

- (D) All points of entry to and departure from each foreign country through which the CRTs will pass.

- (E) A description of the means by which each shipment of the CRTs will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.)).

- (F) The name and address of the recycler or recyclers and the estimated quantity of used CRTs to be sent to each facility, as well as the names of any alternate recyclers.

- (G) A description of the manner in which the CRTs will be recycled in the foreign country that will be receiving the CRTs.

- (H) The name of any transit country through which the CRTs will be sent and a description of the approximate length of time the CRTs will remain in such country and the nature of their handling while there.

- (ii) Notifications must be submitted electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

- (iii) Upon request by EPA, the exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

- (iv) EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA

determines satisfies the requirements of paragraph (a)(5)(i) of this section.

(v) The export of CRTs is prohibited unless all of the following occur:

(A) The receiving country consents to the intended export. When the receiving country consents in writing to the receipt of the CRTs, EPA will forward an Acknowledgment of Consent to Export CRTs to the exporter. Where the receiving country objects to receipt of the CRTs or withdraws a prior consent, EPA will notify the exporter in writing. EPA will also notify the exporter of any responses from transit countries.

(B) On or after the AES filing compliance date of December 31, 2017, the exporter or a U.S. authorized agent must:

(1) Submit Electronic Export Information (EEI) for each shipment to the Automated Export System (AES) or its successor system, under the International Trade Data System (ITDS) platform, in accordance with 15 CFR 30.4(b).

(2) Include the following items in the EEI, along with the other information required under 15 CFR 30.6:

(i) EPA license code;

(ii) Commodity classification code per 15 CFR 30.6(a)(12);

(iii) EPA consent number;

(iv) Country of ultimate destination per 15 CFR 30.6(a)(5);

(v) Date of export per 15 CFR 30.6(a)(2);

(vi) Quantity of waste in shipment and units for reported quantity, if required reporting units established by value for the reported commodity classification number are in units of weight or volume per 15 CFR 30.6(a)(15); or

(vii) EPA net quantity reported in units of kilograms, if required reporting units established by value for the reported commodity classification number are not in units of weight or volume.

(vi) When the conditions specified on the original notification change, the exporter must provide EPA with a written renotification of the change using the allowable methods listed in paragraph (a)(5)(ii) of this section, except for changes to the telephone number in paragraph (a)(5)(i)(A) of this section and decreases in the quantity indicated pursuant to paragraph (a)(5)(i)(C) of this section. The shipment cannot take place until consent of the receiving country to the changes has been obtained (except for changes to information about points of entry and departure and transit countries pursuant to paragraphs (a)(5)(i)(D) and (H) of this section) and the exporter of CRTs receives from EPA a copy of the Acknowledgment of Consent to Export CRTs reflecting the receiving country's consent to the changes.

(vii) A copy of the Acknowledgment of Consent to Export CRTs must accompany the shipment of CRTs. The shipment must conform to the terms of the Acknowledgment.

(viii) If a shipment of CRTs cannot be delivered for any reason to the recycler or the alternate recycler, the exporter of CRTs must renotify EPA of a change in the conditions of the original notification to allow shipment to a new recycler in accordance with paragraph (a)(5)(vi) of this section and obtain another Acknowledgment of Consent to Export CRTs.

(ix) Exporters must keep copies of notifications and Acknowledgments of Consent to Export CRTs for a period of three years following receipt of the Acknowledgment. Exporters may satisfy this recordkeeping requirement by retaining electronically submitted notifications or electronically generated Acknowledgements in the CRT exporter's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that such copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No CRT exporter may be held liable for the inability to produce a notification or Acknowledgement for inspection under this section if the CRT exporter can demonstrate that the inability to produce such copies are due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system for which the CRT exporter bears no responsibility.

(x) CRT exporters must file with EPA no later than March 1 of each year, an annual report summarizing the quantities (in kilograms), frequency of shipment, and ultimate destination(s) (*i.e.*, the facility or facilities where the recycling occurs) of all used CRTs exported during the previous calendar year. Such reports must also include the following:

(A) The name, EPA ID number (if applicable), and mailing and site address of the exporter;

(B) The calendar year covered by the report;

(C) A certification signed by the CRT exporter that states: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(xi) Prior to one year after the AES filing compliance date, annual reports must be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460. Hand-delivered annual reports on used CRTs exported during 2016 should be sent to: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, Ariel Rios Bldg., Room 6144, 1200 Pennsylvania Ave. NW., Washington, DC. Subsequently, annual reports must be submitted to the office listed using the allowable methods specified in paragraph (a)(5)(ii) of this section. Exporters must keep copies of each annual report for a period of at least three years from the due date of the report. Exporters may satisfy this recordkeeping requirement by retaining electronically submitted annual reports in the CRT exporter's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that a copy is readily available for viewing and production if requested by any EPA or authorized state inspector. No CRT exporter may be held liable for the inability to produce an annual report for inspection under this section if the CRT exporter can demonstrate that the inability to produce the annual report is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor

system for which the CRT exporter bears no responsibility.

(b) Requirements for used CRT processing: Used, broken CRTs undergoing CRT processing as defined in § 260.10 of this rule are not solid wastes if they meet the following requirements:

(1) Storage. Used, broken CRTs undergoing processing are subject to the requirement of paragraph (a)(4) of this section.

(2) Processing.

(i) All activities specified in paragraphs (2) and (3) of the definition of “CRT processing” in § 260.10 of this rule must be performed within a building with a roof, floor, and walls; and

(ii) No activities may be performed that use temperatures high enough to volatilize lead from CRTs.

(c) Processed CRT glass sent to CRT glass making or lead smelting: Glass from used CRTs that is destined for recycling at a CRT glass manufacturer or a lead smelter after processing is not a solid waste unless it is speculatively accumulated as defined in § 261.1(c)(8).

(d) Use constituting disposal: Glass from used CRTs that is used in a manner constituting disposal must comply with the requirements of Section 266, subsection C of this rule instead of the requirements of this section.

Used, intact CRTs exported for recycling are not solid wastes if they meet the notice and consent conditions of § 261.39(a)(5), and if they are not speculatively accumulated as defined in § 261.1(c)(8).

§ 261.40 Conditional Exclusion for Used, Intact Cathode Ray Tubes (CRTs) Exported for Recycling.

Used, intact CRTs exported for recycling are not solid wastes if they meet the notice and consent conditions of § 261.39(a)(5), and if they are not speculatively accumulated as defined in § 261.1(c)(8).

§ 261.41 Notification and Recordkeeping for Used, Intact Cathode Ray Tubes (CRTs) Exported for Reuse

(a) CRT exporters who export used, intact CRTs for reuse must send a notification to EPA. This notification may cover export activities extending over a twelve (12) month or lesser period.

(1) The notification must be in writing, signed by the exporter, and include the following information:

(i) Name, mailing address, telephone number, and EPA ID number (if applicable) of the exporter of the used, intact CRTs;

(ii) The estimated frequency or rate at which the used, intact CRTs are to be exported for reuse and the period of time over which they are to be exported;

(iii) The estimated total quantity of used, intact CRTs specified in kilograms;

(iv) All points of entry to and departure from each transit country through which the used, intact CRTs will pass, a description of the approximate length of time the used, intact CRTs will remain in such country, and the nature of their handling while there;

(v) A description of the means by which each shipment of the used, intact CRTs will

be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.));

(vi) The name and address of the ultimate destination facility or facilities where the used, intact CRTs will be reused, refurbished, distributed, or sold for reuse and the estimated quantity of used, intact CRTs to be sent to each facility, as well as the name of any alternate destination facility or facilities;

(vii) A description of the manner in which the used, intact CRTs will be reused (including reuse after refurbishment) in the foreign country that will be receiving the used, intact CRTs; and

(viii) A certification signed by the CRT exporter that states: "I certify under penalty of law that the CRTs described in this notice are intact and fully functioning or capable of being functional after refurbishment and that the used CRTs will be reused or refurbished and reused. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(2) Notifications submitted by mail should be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460. Hand-delivered notifications should be sent to: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, William Jefferson Clinton Building, Room 6144, 1200 Pennsylvania Ave. N.W., Washington, DC 20004. In both cases, the following shall be prominently displayed on the front of the envelope: "Attention: Notification of Intent to Export CRTs."

(b) CRT exporters of used, intact CRTs sent for reuse must keep copies of normal business records, such as contracts, demonstrating that each shipment of exported used, intact CRTs will be reused. This documentation must be retained for a period of at least three years from the date the CRTs were exported. If the documents are written in a language other than English, CRT exporters of used, intact CRTs sent for reuse must provide both the original, non-English version of the normal business records as well as a third-party translation of the normal business records into English within 30 days upon request by EPA.

Subsection F – G [Reserved]

Subsection H – Financial Requirements for Management of Excluded Hazardous Secondary Materials

§ 261.140 Applicability

(a) The requirements of this Subsection apply to owners or operators of reclamation and intermediate facilities managing hazardous secondary materials excluded under APC&EC Rule

No. 23 §261.4(a)(24), except as provided otherwise in this section.

(b) States and the Federal government are exempt from the financial assurance requirements of this subsection.

§ 261.141 Definitions of terms as used in this section

The terms defined in §265.141(d), (f), (g), and (h) of this rule have the same meaning in this subsection as they do in §265.141 of this rule.

§ 261.142 Cost estimate

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of disposing of any hazardous secondary material as listed or characteristic hazardous waste, and the potential cost of closing the facility as a treatment, storage, and disposal facility.

(1) The estimate must equal the cost of conducting the activities described in paragraph (a) of this section at the point when the extent and manner of the facility's operation would make these activities the most expensive; and

(2) The cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct these activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in §265.141(d) of this rule.) The owner or operator may use costs for on-site disposal in accordance with applicable requirements if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous secondary materials, or hazardous or non-hazardous wastes if applicable under §265.113(d) of this rule, facility structures or equipment, land, or other assets associated with the facility.

(4) The owner or operator may not incorporate a zero cost for hazardous secondary materials, or hazardous or non-hazardous wastes if applicable under §265.113(d) of this rule that might have economic value.

(b) During the active life of the facility, the owner or operator must adjust the cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with §261.143. For owners and operators using the financial test or corporate guarantee, the cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Director as specified in §261.143(e)(3). The adjustment may be made by recalculating the cost estimate in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the cost estimate by the inflation factor. The result is the adjusted cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the cost estimate no later than 30 days after a change in a facility's operating plan or design that would increase the

costs of conducting the activities described in paragraph (a) or no later than 60 days after an unexpected event which increases the cost of conducting the activities described in paragraph (a) of this section. The revised cost estimate must be adjusted for inflation as specified in paragraph (b) of this section.

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest cost estimate prepared in accordance with paragraphs (a) and (c) and, when this estimate has been adjusted in accordance with paragraph (b), the latest adjusted cost estimate.

§ 261.143 Financial assurance

Per §261.4(a)(24)(vi)(F) of this rule, an owner or operator of a reclamation or intermediate facility must have financial assurance as a condition of the exclusion as required under §261.4(a)(24) of this rule. He must choose from the options as specified in paragraphs (a) through (e) of this rule.

(a) Trust fund. (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in §264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see §264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current cost estimate covered by the agreement.

(3) The trust fund must be funded for the full amount of the current cost estimate before it may be relied upon to satisfy the requirements of this section.

(4) Whenever the current cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(5) If the value of the trust fund is greater than the total amount of the current cost estimate, the owner or operator may submit a written request to the Director for release of the amount in excess of the current cost estimate.

(6) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Director for release of the amount in excess of the current cost estimate covered by the trust fund.

(7) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (5) or (6) of this section, the Director will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing. If the owner or operator begins final closure under Subsection G of APC&EC Section 264 or 265, an owner or operator may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Director. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days

after receiving bills for partial or final closure activities, the Director will instruct the trustee to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Director has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with §265.143(i) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Director does not instruct the trustee to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(8) The Director will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with paragraph (i) of this section.

(b) Surety bond guaranteeing payment into a trust fund. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in §264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements specified in paragraph (a) of this section, except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in paragraph (a) of this section;

(B) Updating of Schedule A of the trust agreement (see §264.151(a)) to show current cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before loss of the exclusion under §261.4(a)(24) of this rule or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin closure issued by the Director becomes final, or within 15 days after an order to begin closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by

both the owner or operator and the Director of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current cost estimate, except as provided in paragraph (f) of this section.

(7) Whenever the current cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current cost estimate decreases, the penal sum may be reduced to the amount of the current cost estimate following written approval by the Director.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Director has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Letter of credit. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Director. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in §264.151(c).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements of the trust fund specified in paragraph (a) of this section, except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in paragraph (a) of this section;

(B) Updating of Schedule A of the trust agreement (see §264.151(a)) to show current cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number (if any issued), name, and address of

the facility, and the amount of funds assured for the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Director by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Director have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current cost estimate, except as provided in paragraph (f) of this section.

(7) Whenever the current cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current cost estimate decreases, the amount of the credit may be reduced to the amount of the current cost estimate following written approval by the Director.

(8) Following a determination by the Director that the hazardous secondary materials do not meet the conditions of the exclusion under §261.4(a)(24), the Director may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Director will draw on the letter of credit. The Director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Director.

(10) The Director will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with paragraph (i) of this section.

(d) Insurance. (1) An owner or operator may satisfy the requirements of this section by obtaining insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Director. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in §264.151(d).

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate, except as provided in paragraph (f) of this section. The term “face amount” means the total amount the insurer is obligated to pay under the policy. Actual payments by the

insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The insurance policy must guarantee that funds will be available whenever needed to pay the cost of removal of all hazardous secondary materials from the unit, to pay the cost of decontamination of the unit, to pay the costs of the performance of activities required under Subsection G of APC&EC Rule No. 23 Sections 264 or 265, as applicable, for the facilities covered by this policy. The policy must also guarantee that once funds are needed, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Director, to such party or parties as the Director specifies.

(5) After beginning partial or final closure under APC&EC Rule No. 23 Sections 264 or 265, as applicable, an owner or operator or any other authorized person may request reimbursements for closure expenditures by submitting itemized bills to the Director. The owner or operator may request reimbursements only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Director will instruct the insurer to make reimbursements in such amounts as the Director specifies in writing if the Director determines that the expenditures are in accordance with the approved plan or otherwise justified. If the Director has reason to believe that the maximum cost over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with paragraph (h) of this section, that the owner or operator is no longer required to maintain financial assurance for the particular facility. If the Director does not instruct the insurer to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Director consents to termination of the policy by the owner or operator as specified in paragraph (i)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these rule warranting such remedy as the Director deems necessary. Such violation will be deemed to begin upon receipt by the Director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Director. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Director deems the facility abandoned; or

- (ii) Conditional exclusion or interim status is lost, terminated, or revoked; or
- (iii) Closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or
- (iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
- (v) The premium due is paid.

(9) Whenever the current cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current cost estimate decreases, the face amount may be reduced to the amount of the current cost estimate following written approval by the Director.

(10) The Director will give written consent to the owner or operator that he may terminate the insurance policy when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with paragraph (i) of this section.

(e) Financial test and corporate guarantee. (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (e)(1) (i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or

operator's chief financial officer (§264.151(e)). The phrase “current plugging and abandonment cost estimates” as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (40 CFR §144.70(f)).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Director:

- (i) A letter signed by the owner's or operator's chief financial officer and worded as specified in §264.151(e); and

- (ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

- (iii) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies paragraph (e)(1)(i) of this section that are different from the data in the audited financial statements referred to in paragraph (e)(3)(ii) of this section or any other audited financial statement or data filed with the SEC, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of the comparison, and the reasons for any differences.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these rules and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these rules, a letter to the Director. This letter from the chief financial officer must:

- (i) Request the extension;

- (ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

- (iii) Specify for each facility to be covered by the test the EPA Identification Number (if any issued), name, address, and current cost estimates to be covered by the test;

- (iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these rules in this subpart;

- (v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

- (vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this

section, he must send notice to the Director of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with paragraph (i) of this section.

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (8) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in §264.151(g)(1). A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (e)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

- (i) Following a determination by the Director that the hazardous secondary materials at the owner or operator's facility covered by this guarantee do not meet the conditions of the exclusion under §261.4(a)(24) of this rule, the guarantor will dispose of any hazardous secondary material as hazardous waste and close the facility in accordance with closure requirements found in Sections 264 or 265 of this rule, as applicable, or establish a trust fund as specified in paragraph (a) of this section in the name of the

owner or operator in the amount of the current cost estimate.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a) through (d) of this section, respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Director may use any or all of the mechanisms to provide for the facility.

(g) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Director must include a list showing, for each facility, the EPA Identification Number (if any issued), name, address, and the amount of funds assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for any of the facilities covered by the mechanism, the Director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) Removal and Decontamination Plan for Release (1) An owner or operator of a reclamation facility or an intermediate facility who wishes to be released from his financial assurance obligations under §261.4(a)(24)(vi)(F) of this rule must submit a plan for removing all hazardous secondary material residues to the Director at least 180 days prior to the date on which he expects to cease to operate under the exclusion.

(2) The plan must include, at least:

(A) For each hazardous secondary materials storage unit subject to financial assurance requirements under §261.4(a)(24)(vi)(F), a description of how all excluded hazardous secondary materials will be recycled or sent for recycling, and how all residues, contaminated containment systems (liners, etc), contaminated soils, subsoils, structures, and equipment will be removed or decontaminated as necessary to protect human health and the environment, and

(B) A detailed description of the steps necessary to remove or decontaminate all hazardous secondary material residues and contaminated containment system

components, equipment, structures, and soils including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to protect human health and the environment; and

(C) A detailed description of any other activities necessary to protect human health and the environment during this timeframe, including, but not limited to, leachate collection, run-on and run-off control, etc; and

(D) A schedule for conducting the activities described which, at a minimum, includes the total time required to remove all excluded hazardous secondary materials for recycling and decontaminate all units subject to financial assurance under §261.4(a)(24)(vi)(F) and the time required for intervening activities which will allow tracking of the progress of decontamination.

(3) The Director will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning the plan. The Director will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Director will approve, modify, or disapprove the plan within 90 days of its receipt. If the Director does not approve the plan, he shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Director will approve or modify this plan in writing within 60 days. If the Director modifies the plan, this modified plan becomes the approved plan. The Director must assure that the approved plan is consistent with paragraph (h) of this section. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(4) Within 60 days of completion of the activities described for each hazardous secondary materials management unit, the owner or operator must submit to the Director, by registered mail, a certification that all hazardous secondary materials have been removed from the unit and the unit has been decontaminated in accordance with the specifications in the approved plan. The certification must be signed by the owner or operator and by an independent qualified Arkansas-registered Professional Engineer. Documentation supporting the Professional Engineer's certification must be furnished to the Director, upon request, until he releases the owner or operator from the financial assurance requirements for §261.4(a)(24)(vi)(F).

(i) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and an independent qualified Arkansas-registered Professional Engineer that all hazardous secondary materials have been removed from the facility or a unit at the facility and the facility or a unit has been decontaminated in accordance with the approved plan per paragraph (h), the Director will notify the owner or operator in writing that he is no longer required under §261.4(a)(24)(vi)(F) to maintain financial assurance for that facility or a unit at the facility, unless the Director has reason to believe that all hazardous secondary

materials have not been removed from the facility or unit at a facility or that the facility or unit has not been decontaminated in accordance with the approved plan. The Director shall provide the owner or operator a detailed written statement of any such reason to believe that all hazardous secondary materials have not been removed from the unit or that the unit has not been decontaminated in accordance with the approved plan.

§ 261.144 – 261.146 [Reserved]

§ 261.147 Liability requirements

(a) Coverage for sudden accidental occurrences. An owner or operator of a hazardous secondary material reclamation facility or an intermediate facility subject to financial assurance requirements under §261.4(a)(24)(vi)(F) of this rule, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Secondary Material Facility Liability Endorsement, or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in §264.151(h). The wording of the certificate of insurance must be identical to the wording specified in §264.151(i). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Director. If requested by the Director, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or

operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as “primary” coverage and shall specify other assurance as “excess” coverage.

(7) An owner or operator shall notify the Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material reclamation facility or intermediate facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material reclamation facility or intermediate facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (a)(6) of this section.

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a hazardous secondary material reclamation facility or intermediate facility with land-based units, as defined in §260.10 of this rule, which are used to manage hazardous secondary materials excluded under §261.4(a)(24) of this rule or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least \$4 million per occurrence and \$8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraph (b)(1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Secondary Material Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in §264.151(h). The wording of the certificate of insurance must be identical to the wording specified in §264.151(i). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Director. If requested by the Director, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as “primary” coverage and shall specify other assurance as “excess” coverage.

(7) An owner or operator shall notify the Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (b)(1) through (b)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material treatment and/or storage facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (b)(1) through (b)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material treatment and/or storage facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (b)(1) through (b)(6) of this section.

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Director that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment and/or storage at the facility or group of facilities, the owner or operator may obtain a variance from the Director. The request for a variance must be submitted in writing to the Director. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Director's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Director may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Director to determine a level of financial responsibility other than that required by paragraph (a) or

(b) of this section.

(d) Adjustments by the Director. If the Director determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment and/or storage at the facility or group of facilities, the Director may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Director's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Director determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, pile, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Director, within a reasonable time, any information which the Director requests to determine whether cause exists for such adjustments of level or type of coverage.

(e) Period of coverage. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that all hazardous secondary materials have been removed from the facility or a unit at the facility and the facility or a unit has been decontaminated in accordance with the approved plan per §261.143(h), the Director will notify the owner or operator in writing that he is no longer required under §261.4(a)(24)(vi)(F) to maintain liability coverage for that facility or a unit at the facility, unless the Director has reason to believe that that all hazardous secondary materials have not been removed from the facility or unit at a facility or that the facility or unit has not been decontaminated in accordance with the approved plan.

(f) Financial test for liability coverage. (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1) (i) or (ii) of this section:

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least \$10 million; and

(C) Assets in the United States amounting to either:

(1) At least 90 percent of his total assets; or

(2) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least \$10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either:

(1) At least 90 percent of his total assets; or

(2) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section and the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of APC&EC Rule No. 23 264.147 and 265.147.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in §264.151(f). If an owner or operator is using the financial test to demonstrate both assurance as specified by §261.143(e), and liability coverage, he must submit the letter specified in §264.151(f) to cover both forms of financial responsibility; a separate letter as specified in §264.151(e) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies paragraph (f)(1)(i) of this section that are different from the data in the audited financial statements referred to in paragraph (f)(3)(ii) of this section or any other audited financial statement or data filed with the SEC, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of the comparison, and the reasons for any difference.

(4) The owner or operator may obtain a one-time extension of the time allowed for submission of the documents specified in paragraph (f)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these rules and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these rules, a letter to the Director of each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, the amount of liability coverage and, when applicable, current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these rules;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (f)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage must be submitted to the Director within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) Guarantee for liability coverage. (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in §264.151(g)(2). A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of:

(A) The State in which the guarantor is incorporated; and

(B) Each State in which a facility covered by the guarantee is located have submitted a written statement to EPA that a guarantee executed as described in this section and §264.151(g)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if:

(A) The non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the

State in which it has its principal place of business; and if

(B) The Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and §264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) Letter of credit for liability coverage. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Director.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in §264.151(j).

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(5) The wording of the standby trust fund must be identical to the wording specified in §264.151(m).

(i) Surety bond for liability coverage.

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Director.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in §264.151(k) of this rule.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of:

(i) The State in which the surety is incorporated; and

(ii) Each State in which a facility covered by the surety bond is located have submitted a written statement to EPA that a surety bond executed as described in this section and §264.151(k) is a legally valid and enforceable obligation in that State.

(j) Trust fund for liability coverage.

(1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability

coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the Fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(4) The wording of the trust fund must be identical to the wording specified in §264.151(l).

§ 261.148 Incapacity of owners or operators, guarantors, or financial institutions

(a) An owner or operator must notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §261.143(e) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee.

(b) An owner or operator who fulfills the requirements of §261.143 or §261.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 261.149 Use of State-required mechanisms

(a) For a reclamation or intermediate facility located in a State where EPA is administering the requirements of this subpart but where the State has rules that include requirements for financial assurance of closure or liability coverage, an owner or operator may use State-required financial mechanisms to meet the requirements of §261.143 or §261.147 if the Director determines that the State mechanisms are at least equivalent to the financial mechanisms specified in this subsection. The Director will evaluate the equivalency of the mechanisms principally in terms of certainty of the availability of: Funds for the required closure activities or liability coverage; and the amount of funds that will be made available. The Director may also consider other factors as he deems appropriate. The owner or operator must submit to the Director evidence of the establishment of the mechanism together with a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this subsection. The submission must include the following information: The facility's EPA Identification Number (if available), name, and address, and the amount of funds for closure or liability coverage assured by the mechanism. The Director will notify the owner or operator of his determination regarding the mechanism's acceptability in

lieu of financial mechanisms specified in this subsection. The Director may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of §261.143 or §261.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subsection by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this subsection. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subsection.

§ 261.150 State assumption of responsibility

(a) If a State either assumes legal responsibility for an owner's or operator's compliance with the closure or liability requirements of this Section or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of §261.143 or §261.147 if the Director determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this subpart. The Director will evaluate the equivalency of State guarantees principally in terms of: Certainty of the availability of funds for the required closure activities or liability coverage; and the amount of funds that will be made available. The Director may also consider other factors as he deems appropriate. The owner or operator must submit to the Director a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this subsection. The letter from the State must include, or have attached to it, the following information: The facility's EPA Identification Number (if available), name, and address, and the amount of funds for closure or liability coverage that are guaranteed by the State. The Director will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this subsection. The Director may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of §265.143 or §265.147, as applicable.

(b) If a State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subsection by use of both the State's assurance and additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subsection.

Subsection I – Use and Management of Containers

§ 261.170 Applicability

This subsection applies to hazardous secondary materials excluded under the remanufacturing exclusion at §261.4(a)(27) and stored in containers.

§ 261.171 Condition of Containers

If a container holding hazardous secondary material is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the hazardous secondary material must be transferred from this container to a container that is in good condition or managed in some other way that complies with the requirements of this Section.

§ 261.172 Compatibility of hazardous secondary materials with containers

The container must be made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous secondary material to be stored, so that the ability of the container to contain the material is not impaired.

§ 261.173 Management of Containers

(a) A container holding hazardous secondary material must always be closed during storage, except when it is necessary to add or remove the hazardous secondary material.

(b) A container holding hazardous secondary material must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

§ 261.175 Containment

(a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section.

(b) A containment system must be designed and operated as follows:

(1) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(3) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater.

(4) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (b)(3) of this section to contain any run-on which might enter the system; and

(5) Spilled or leaked material and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

§ 261.176 Special requirements for ignitable or reactive hazardous secondary material

Containers holding ignitable or reactive hazardous secondary material must be located at least 15 meters (50 feet) from the facility's property line.

§ 261.177 Special requirements for incompatible materials

- (a) Incompatible materials must not be placed in the same container.
- (b) Hazardous secondary material must not be placed in an unwashed container that previously held an incompatible material.
- (c) A storage container holding a hazardous secondary material that is incompatible with any other materials stored nearby must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

§ 261.179 Air emission standards

The remanufacturer or other person that stores or treats the hazardous secondary material shall manage all hazardous secondary material placed in a container in accordance with the applicable requirements of subsections AA, BB, and CC of this Section.

Subsection J – Tank Systems

§ 261.190 Applicability

- (a) The requirements of this subsection apply to tank systems for storing or treating hazardous secondary material excluded under the remanufacturing exclusion at § 261.4(a)(27).
- (b) Tank systems, including sumps, as defined in § 260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous secondary materials are exempted from the requirements in § 261.193(a).

§ 261.191 Assessment of existing tank system's integrity

- (a) Tank systems must meet the secondary containment requirements of § 261.193, or the remanufacturer or other person that handles the hazardous secondary material must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, a written assessment reviewed and certified by *an independent qualified Arkansas-Registered Professional Engineer* must be kept on file at the remanufacturer's facility or other facility that stores or treats the hazardous secondary material that attests to the tank system's integrity.
- (b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the material(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:
 - (1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;
 - (2) Hazardous characteristics of the material(s) that have been and will be handled;
 - (3) Existing corrosion protection measures;
 - (4) Documented age of tank system, if available (otherwise, an estimate of the age); and
 - (5) Results of a leak test, internal inspection, or other tank integrity examination such that:
 - (i) For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end

deflection, vapor pockets, and high water table effects, and

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination that is certified by a *independent qualified Arkansas-Registered Professional Engineer* that addresses cracks, leaks, corrosion, and erosion.

Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.

(c) If, as a result of the assessment conducted in accordance with paragraph (a) of this section, a tank system is found to be leaking or unfit for use, the remanufacturer or other person that stores or treats the hazardous secondary material must comply with the requirements of § 261.196.

§ 261.192 [Reserved]

§ 261.193 Containment and detection of releases

(a) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of materials or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

Note: If the collected material is a hazardous waste under Section 261 of this rule, it is subject to management as a hazardous waste in accordance with all applicable requirements of Sections 262 through 265, 266, and 268 of this rule. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to a Publicly Owned Treatment Works (POTW), it is subject to the requirements of section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302.

(b) To meet the requirements of paragraph (a) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the materials(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the material to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic).

(2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous secondary material or accumulated liquid in the secondary containment system at the earliest practicable time; and

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked material and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) Secondary containment for tanks must include one or more of the following devices:

- (1) A liner (external to the tank);
- (2) A vault; or
- (3) A double-walled tank.

(d) In addition to the requirements of paragraphs (a), (b), and (c) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

(iii) Free of cracks or gaps; and

(iv) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the material if the material is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the material).

(2) Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Constructed with chemical-resistant water stops in place at all joints (if any);

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored material and that will prevent migration of material into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the material being stored or treated is ignitable or reactive; and

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

(iii) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time.

Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.

(e) [Reserved]

(f) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (a) and (b) of this section except for:

- (1) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;
- (2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;
- (3) Seal less or magnetic coupling pumps and seal less valves that are visually inspected for leaks on a daily basis; and
- (4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

§ 261.194 General operating requirements

(a) Hazardous secondary materials or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

(b) The remanufacturer or other person that stores or treats the hazardous secondary material must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

- (1) Spill prevention controls (e.g., check valves, dry disconnect couplings);
- (2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and
- (3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The remanufacturer or other person that stores or treats the hazardous secondary material must comply with the requirements of § 261.196 of this subsection if a leak or spill occurs in the tank system.

§ 261.195 [Reserved]

§ 261.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the remanufacturer or other person that stores or treats the hazardous secondary material must satisfy the following requirements:

(a) Cessation of use; prevent flow or addition of materials. The remanufacturer or other person that stores or treats the hazardous secondary material must immediately stop the flow of hazardous secondary material into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) Removal of material from tank system or secondary containment system.

- (1) If the release was from the tank system, the remanufacturer or other person that stores or treats the hazardous secondary material must, within 24 hours after detection of the leak or, if the remanufacturer or other person that stores or treats the hazardous secondary material demonstrates that it is not possible, at the earliest practicable time, remove as much of the

material as is necessary to prevent further release of hazardous secondary material to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) Containment of visible releases to the environment. The remanufacturer or other person that stores or treats the hazardous secondary material must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports.

(1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Director within 24 hours of its detection. If the release has been reported pursuant to 40 CFR part 302, that report will satisfy this requirement.

(2) A leak or spill of hazardous secondary material is exempted from the requirements of this paragraph if it is:

(i) Less than or equal to a quantity of 1 pound, and

(ii) Immediately contained and cleaned up.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Director:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Director as soon as they become available.

(iv) Proximity to downgradient drinking water, surface water, and populated areas; and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure.

(1) Unless the remanufacturer or other person that stores or treats the hazardous secondary material satisfies the requirements of paragraphs (e)(2) through (4) of this section, the tank system must cease to operate under the remanufacturing exclusion at APC&EC Rule No. 23 261.4(a)(27).

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the remanufacturer or other person that stores or treats the hazardous secondary material may return the system to service as soon as the released material is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the remanufacturer or other person that stores or treats the hazardous secondary material must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of §

261.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with § 261.193 of this subsection prior to being returned to use.

(f) Certification of major repairs. If the remanufacturer or other person that stores or treats the hazardous secondary material has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the remanufacturer or other person that stores or treats the hazardous secondary material has obtained a certification by *an independent qualified Arkansas-Registered Professional Engineer* that the repaired system is capable of handling hazardous secondary materials without release for the intended life of the system. This certification must be kept on file at the facility and maintained until closure of the facility.

Note 1: The Director may, on the basis of any information received that there is or has been a release of hazardous secondary material or hazardous constituents into the environment, issue an order under the Arkansas Remedial Trust Fund Act (A.C.A. §§ 8-7-501 *et seq.*) requiring corrective action or such other response as deemed necessary to protect human health or the environment.

Note 2: 40 CFR part 302 may require the owner or operator to notify the National Response Center of certain releases.

§ 261.197 Termination of remanufacturing exclusion

Hazardous secondary material stored in units more than 90 days after the unit ceases to operate under the remanufacturing exclusion at APC&EC Rule No. 23 261.4(a)(27) or otherwise ceases to be operated for manufacturing, or for storage of a product or a raw material, then becomes subject to rule as hazardous waste under Sections 261 through 266, 268, 270, 271, and 124 of this rule, as applicable.

§ 261.198 Special requirements for ignitable or reactive materials

(a) Ignitable or reactive material must not be placed in tank systems, unless the material is stored or treated in such a way that it is protected from any material or conditions that may cause the material to ignite or react.

(b) The remanufacturer or other person that stores or treats hazardous secondary material which is ignitable or reactive must store or treat the hazardous secondary material in a tank that is in compliance with the requirements for the maintenance of protective distances between the material management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2–1 through 2–6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see § 260.11).

§ 261.199 Special requirements for incompatible materials

- (a) Incompatible materials must not be placed in the same tank system.
- (b) Hazardous secondary material must not be placed in a tank system that has not been decontaminated and that previously held an incompatible material.

§ 261.200 Air emission standards

The remanufacturer or other person that stores or treats the hazardous secondary material shall manage all hazardous secondary material placed in a tank in accordance with the applicable requirements of subsections AA, BB, and CC of this Section.

Subsection K – L [Reserved]

Subsection M – Emergency Preparedness and Response for Management of Excluded Hazardous Secondary Material

§ 261.400 Applicability

The requirements of this subsection apply to those areas of an entity managing hazardous secondary materials excluded under § 261.4(a)(23) and/or (24) where hazardous secondary materials are generated or accumulated on site.

(a) A generator of hazardous secondary material, or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d), that accumulates 6000 kg or less of hazardous secondary material at any time must comply with §§ 261.410 and 261.411.

(b) A generator of hazardous secondary material, or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) that accumulates more than 6000 kg of hazardous secondary material at any time must comply with §§ 261.410 and 261.420.

§ 261.410 Preparedness and prevention

(a) Maintenance and operation of facility. Facilities generating or accumulating hazardous secondary material must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous secondary materials or hazardous secondary material constituents to air, soil, or surface water which could threaten human health or the environment.

(b) Required equipment. All facilities generating or accumulating hazardous secondary material must be equipped with the following, unless none of the hazards posed by hazardous secondary material handled at the facility could require a particular kind of equipment specified below:

- (1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
- (2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;
- (3) Portable fire extinguishers, fire control equipment (including special extinguishing

equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(4) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

(c) Testing and maintenance of equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

(d) Access to communications or alarm system. (1) Whenever hazardous secondary material is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under paragraph (b) of this section.

(1) Whenever hazardous secondary material is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under paragraph (b) of this section.

(2) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required under paragraph (b) of this section.

(e) Required aisle space. The hazardous secondary material generator or intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

(f) Arrangements with local authorities.

(1) The hazardous secondary material generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(i) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous secondary material handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(ii) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(iii) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and

(iv) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(2) Where state or local authorities decline to enter into such arrangements, the hazardous

secondary material generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) must document the refusal in the operating record.

§ 261.411 Emergency procedures for facilities generating or accumulating 6000 kg or less of hazardous secondary material

A generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) that generates or accumulates 6000 kg or less of hazardous secondary material must comply with the following requirements:

(a) At all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (d) of this section. This employee is the emergency coordinator.

(b) The generator or intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) must post the following information next to the telephone:

- (1) The name and telephone number of the emergency coordinator;
- (2) Location of fire extinguishers and spill control material, and, if present, fire alarm; and
- (3) The telephone number of the fire department, unless the facility has a direct alarm.

(c) The generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(d) The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

- (1) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;
- (2) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;
- (3) In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) has knowledge that a spill has reached surface water, the generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) must immediately notify the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include the following information:
 - (i) The name, address, and U.S. EPA Identification Number of the facility;
 - (ii) Date, time, and type of incident (e.g., spill or fire);
 - (iii) Quantity and type of hazardous waste involved in the incident;
 - (iv) Extent of injuries, if any; and
 - (v) Estimated quantity and disposition of recovered materials, if any.

§ 261.420 Contingency planning and emergency procedures for facilities generating or accumulating more than 6000 kg of hazardous secondary material

A generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) that generates or accumulates more than 6000 kg of hazardous secondary material must comply with the following requirements:

(a) Purpose and implementation of contingency plan.

(1) Each generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) that accumulates more than 6000 kg of hazardous secondary material must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous secondary material or hazardous secondary material constituents to air, soil, or surface water.

(2) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous secondary material or hazardous secondary material constituents which could threaten human health or the environment.

(b) Content of contingency plan.

(1) The contingency plan must describe the actions facility personnel must take to comply with paragraphs (a) and (f) in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous secondary material or hazardous secondary material constituents to air, soil, or surface water at the facility.

(2) If the generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) accumulating more than 6000 kg of hazardous secondary material has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with Section 112 of this rule, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Section. The hazardous secondary material generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) may develop one contingency plan which meets all regulatory requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan"). When modifications are made to non-RCRA provisions in an integrated contingency plan, the changes do not trigger the need for a RCRA permit modification.

(3) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to §262.410(f).

(4) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see paragraph (e) of this section), and this list must be kept up-to-date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(5) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to

begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

(c) Copies of contingency plan. A copy of the contingency plan and all revisions to the plan must be:

(1) Maintained at the facility; and

(2) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

(d) Amendment of contingency plan. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(1) Applicable rules are revised;

(2) The plan fails in an emergency;

(3) The facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous secondary material or hazardous secondary material constituents, or changes the response necessary in an emergency;

(4) The list of emergency coordinators changes; or

(5) The list of emergency equipment changes.

(e) Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan. The emergency coordinator's responsibilities are more fully spelled out in paragraph (f). Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of hazardous secondary material(s) handled by the facility, and type and complexity of the facility.

(f) Emergency procedures.

(1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(ii) Notify appropriate State or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(i) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(ii) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(A) Name and telephone number of reporter;

(B) Name and address of facility;

(C) Time and type of incident (e.g., release, fire);

(D) Name and quantity of material(s) involved, to the extent known;

(E) The extent of injuries, if any; and

(F) The possible hazards to human health, or the environment, outside the facility.

(5) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous secondary material at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released material, and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered secondary material, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. Unless the hazardous secondary material generator can demonstrate, in accordance with §261.3(c) or (d) of this rule, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Sections 262, 263, and 265 of this rule.

(8) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(i) No secondary material that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The hazardous secondary material generator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Director. The report must include:

(i) Name, address, and telephone number of the hazardous secondary material generator;

(ii) Name, address, and telephone number of the facility;

(iii) Date, time, and type of incident (e.g., fire, explosion);

(iv) Name and quantity of material(s) involved;

(v) The extent of injuries, if any;

(vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

(g) Personnel training. All employees must be thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies.

Subsections N – Z [Reserved]

Subsection AA - Air Emission Standards for Process Vents

§ 261.1030 Applicability

The rules in this subsection apply to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or stream stripping operations that manage hazardous secondary materials excluded under the remanufacturing exclusion at § 261.4(a)(27) with concentrations of at least 10 ppmw, unless the process vents are equipped with operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63.

§ 261.1031 Definitions

As used in this Subsection, all terms shall have the meaning given them in § 261.1031, RCRA, the Act, and Sections 260-266 of this rule.

§ 261.1032 Standards: Process vents

(a) The remanufacturer or other person that stores or treats hazardous secondary materials in hazardous secondary material management units with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations managing hazardous secondary materials with organic concentrations at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the remanufacturer or other person that stores or treats the hazardous secondary material installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section, the closed-vent system and control device must meet the requirements of § 261.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of § 261.1034(c).

(d) When a remanufacturer or other person that stores or treats the hazardous secondary material and the Director do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the test methods in § 261.1034(c) shall be used to resolve the disagreement.

§ 261.1033 Standards: Closed-vent systems and control devices

(a)(1) The remanufacturer or other person that stores or treats the hazardous secondary materials in hazardous secondary material management units using closed-vent systems and control devices used to comply with provisions of this Section shall comply with the provisions of this section.

(2) [Reserved]

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of § 261.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame combustion zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 264.2 MJ/scm (300 Btu/scf) or greater, if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 260.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, of less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(4) of this section, and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this Subsection. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left[\sum_{i=1}^n C_i H_i \right]$$

where:

H_T =Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C;

K =Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C;

C_i =Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in § 260.11); and

H_i =Net heat of combustion of sample component i , kcal/g mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as specified in § 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{\max} , for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$\text{Log}_{10}(V_{\max}) = (H_T + 28.8) / 31.7$$

where:

H_T =The net heating value as determined in paragraph (e)(2) of this section.

28.8=Constant,

31.7=Constant.

(5) The maximum allowed velocity in m/s, V_{\max} , for an air-assisted flare shall be determined by the following equation:

$$V_{\max} = 8.706 + 0.7084 (H_T)$$

where:

8.706 = Constant.

0.7084 = Constant.

H_T = The net heating value as determined in paragraph (e)(2) of this section.

(f) The remanufacturer or other person that stores or treats the hazardous secondary material shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or $\pm 0.5^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or $\pm 0.5^{\circ}\text{C}$, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or $\pm 0.5^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius ($^{\circ}\text{C}$) or $\pm 0.5^{\circ}\text{C}$, whichever is

greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side).

(vii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly in the control device, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f) (1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) A remanufacturer or other person that stores or treats the hazardous secondary material in a hazardous secondary material management unit using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of § 261.1035(b)(4)(iii)(F).

(h) A remanufacturer or other person that stores or treats the hazardous secondary material in a hazardous secondary material management unit using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of § 261.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of § 261.1035 (b)(4)(iii)(G).

(i) A remanufacturer or other person that stores or treats hazardous secondary material at an affected facility seeking to comply with the provisions of this Section by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(j) A closed-vent system shall meet either of the following design requirements:

(1) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in § 261.1034(b) of this subsection, and by visual inspections; or

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric

pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(k) The remanufacturer or other person that stores or treats hazardous secondary material shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

(1) Each closed-vent system that is used to comply with paragraph (j)(1) of this section shall be inspected and monitored in accordance with the following requirements:

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the remanufacturer or other person that stores or treats the hazardous secondary material on or before the date that the system becomes subject to this section. The remanufacturer or other person that stores or treats the hazardous secondary material shall monitor the closed-vent system components and connections using the procedures specified in § 261.1034(b) of this subsection to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(ii) After initial leak detection monitoring required in paragraph (k)(1)(i) of this section, the remanufacturer or other person that stores or treats hazardous secondary material shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The remanufacturer or other person that stores or treats hazardous secondary material shall monitor a component or connection using the procedures specified in § 261.1034(b) of this subsection to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

(B) Closed-vent system components or connections other than those specified in paragraph (k)(1)(ii)(A) of this section shall be monitored annually and at other times as requested by the Director, except as provided for in paragraph (n) of this section, using the procedures specified in § 261.1034(b) of this subsection to demonstrate that the components or connections operate with no detectable emissions.

(iii) In the event that a defect or leak is detected, the remanufacturer or other person that stores or treats hazardous secondary material shall repair the defect or leak in accordance with the requirements of paragraph (k)(3) of this section.

(iv) The remanufacturer or other person shall maintain a record of the inspection and monitoring in accordance with the requirements specified in § 261.1035 of this subsection.

(2) Each closed-vent system that is used to comply with paragraph (j)(2) of this section shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible

cracks, holes, or gaps in ductwork or piping or loose connections.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year.

(iii) In the event that a defect or leak is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (k)(3) of this section.

(iv) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection and monitoring in accordance with the requirements specified in § 261.1035 of this subsection.

(3) The remanufacturer or other person that stores or treats the hazardous secondary material shall repair all detected defects as follows:

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in paragraph (k)(3)(iii) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the remanufacturer or other person that stores or treats the hazardous secondary material determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(iv) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the defect repair in accordance with the requirements specified in § 261.1035 of this subsection.

(l) Closed-vent systems and control devices used to comply with provisions of this subsection shall be operated at all times when emissions may be vented to them.

(m) The remanufacturer or other person using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous secondary material and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(i) [Reserved]

(ii) [Reserved]

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

(2) Incinerated in a hazardous secondary materials incinerator for which the owner or operator either:

(i) [Reserved]

(ii) Has designed and operates the incinerator in accordance with the interim status

requirements of subsection O of this section.

(3) Burned in a boiler or industrial furnace for which the remanufacturer or other person either:

(i) Has been issued a final permit under § 270 which implements the requirements of § 266, subsection H; or

(ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of § 266, subsection H.

(n) Any components of a closed-vent system that are designated, as described in § 261.1035(c)(9) of this subsection, as unsafe to monitor are exempt from the requirements of paragraph (k)(1)(ii)(B) of this section if:

(1) The remanufacturer or other person that stores or treats the hazardous secondary material in a hazardous secondary material management unit using a closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (k)(1)(ii)(B) of this section; and

(2) The remanufacturer or other person that stores or treats the hazardous secondary material in a hazardous secondary material management unit using a closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in paragraph (k)(1)(ii)(B) of this section as frequently as practicable during safe-to-monitor times.

§ 261.1034 Test methods and procedures.

(a) Each remanufacturer or other person that stores or treats the hazardous secondary material subject to the provisions of this Subsection shall comply with the test methods and procedures requirements provided in this section.

(b) When a closed-vent system is tested for compliance with no detectable emissions, as required in § 261.1033(k) of this subsection, the test shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with § 261.1032(a) and with the total organic compound concentration limit of § 261.1033(c) shall comply with the following:

(1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance

with the following reference methods and calculation procedures:

- (i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.
- (ii) Method 18 or Method 25A in 40 CFR part 60 for organic content. If Method 25A is used, the organic HAP used as the calibration gas must be the single organic HAP representing the largest percent by volume of the emissions. The use of Method 25A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.
- (iii) Each performance test shall consist of three separate runs; each run conducted for at least 1 hour under the conditions that exist when the hazardous secondary materials management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.
- (iv) Total organic mass flow rates shall be determined by the following equation:
 - (A) For sources utilizing Method 18:

$$E_h = Q_{2sd} \left\{ \sum_{i=1}^n C_i MW_i \right\} [0.0416] [10^{-6}]$$

where:

E_h =Total organic mass flow rate, kg/h;

Q_{2sd} =Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n =Number of organic compounds in the vent gas;

C_i =Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i =Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416=Conversion factor for molar volume, kg-mol/m³ (@ 293 K and 760 mm Hg);

10⁻⁶=Conversion from ppm.

- (B) For sources utilizing Method 25A.

$$E_h = (Q)(C)(MW)(0.0416)(10^{-6})$$

Where:

E_h = Total organic mass flow rate, kg/h;

Q = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

C = Organic concentration in ppm, dry basis, as determined by Method 25A;

MW = Molecular weight of propane, 44;

0.0416 = Conversion factor for molar volume, kg-mol/m³ (@ 293 K and 760 mm Hg);

10⁻⁶ = Conversion from ppm.

(v) The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_h) (H)$$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h , as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A , as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The remanufacturer or other person that stores or treats the hazardous secondary material shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The remanufacturer or other person that stores or treats the hazardous secondary material at an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the remanufacturer's or other person's that stores or treats the hazardous secondary material control, compliance may, upon the Director's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous secondary materials distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this Subsection, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum

waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060A (incorporated by reference under § 260.11) of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846; or analyzed for its individual organic constituents.

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous secondary materials with time-weighted annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this Subsection or by the date when the waste is first managed in a waste management unit, whichever is later; and

(2) For continuously generated waste, annually; or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When a remanufacturer or other person that stores or treats the hazardous secondary material and the Director do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous secondary materials with organic concentrations of at least 10 ppmw based on knowledge of the waste, the dispute may be resolved using direct measurement as specified at paragraph (d)(1) of this subsection.

§ 261.1035 Recordkeeping requirements

(a)(1) Each remanufacturer or other person that stores or treats the hazardous secondary material

subject to the provisions of this Subsection shall comply with the recordkeeping requirements of this section.

(2) A remanufacturer or other person that stores or treats the hazardous secondary material of more than one hazardous secondary materials management unit subject to the provisions of this Subsection may comply with the recordkeeping requirements for these hazardous secondary materials management units in one recordkeeping system if the system identifies each record by each hazardous secondary materials management unit.

(b) The remanufacturer or other person that stores or treats the hazardous secondary material must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of § 261.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this Subsection.

(2) Up-to-date documentation of compliance with the process vent standards in § 261.1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous secondary materials management units on a facility plot plan); and

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the remanufacturer or other person that stores or treats the hazardous secondary material takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where a remanufacturer or other person that stores or treats the hazardous secondary material chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous secondary materials management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

- (A) Manufacturer's name and model number of control device.
 - (B) Type of control device.
 - (C) Dimensions of the control device.
 - (D) Capacity.
 - (E) Construction materials.
- (iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.
- (4) Documentation of compliance with § 261.1033 shall include the following information:
- (i) A list of all information references and sources used in preparing the documentation.
 - (ii) Records, including the dates, of each compliance test required by § 261.1033(j).
 - (iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions" (incorporated by reference as specified in § 260.11) or other engineering texts acceptable to the Director that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.
 - (A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.
 - (B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.
 - (C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.
 - (D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in § 261.1033(d).
 - (E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.
 - (F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream

organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the remanufacturer or other person that stores or treats the hazardous secondary material certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous secondary materials management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the remanufacturer or other person that stores or treats the hazardous secondary material certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of § 261.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of § 261.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this Section shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with § 261.1033(f)(1) and (f)(2).

(3) Monitoring, operating and inspection information required by paragraphs (f) through (k) of § 261.1033 of this subsection.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760°C, period when the combustion temperature is below 760°C.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 percent or greater, period when the combustion zone temperature is more than 28°C below the design average combustion zone temperature

established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28°C below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section; or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28°C below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section; or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

(v) For a flare, period when the pilot flame is not ignited.

(vi) For a condenser that complies with § 261.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(vii) For a condenser that complies with § 261.1033(f)(2)(vi)(B), period when:

(A) Temperature of the exhaust vent stream from the condenser is more than 6 °C above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or

(B) Temperature of the coolant fluid exiting the condenser is more than 6 °C above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(viii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 261.1033(f)(2) (vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 261.1033 (f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(5) Explanation for each period recorded under paragraph (c)(4) of this section of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For carbon adsorption systems operated subject to requirements specified in § 261.1033(g) or § 261.1033(h)(2), date when existing carbon in the control device is replaced

with fresh carbon.

(7) For carbon adsorption systems operated subject to requirements specified in § 261.1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device startup and shutdown.

(9) A remanufacturer or other person that stores or treats the hazardous secondary material designating any components of a closed-vent system as unsafe to monitor pursuant to § 261.1033(n) of this subsection shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of § 261.1033(n) of this subsection, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component.

(10) When each leak is detected as specified in § 261.1033(k) of this subsection, the following information shall be recorded:

(i) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonreparable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The remanufacturer or other person that stores or treats the hazardous secondary material may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(10) of this section shall be maintained by the remanufacturer or other person that stores or treats the hazardous secondary material for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in § 261.1032 including supporting documentation as required by § 261.1034(d)(2) when application of the knowledge of the nature of the hazardous secondary materials stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

§§ 261.1036 — 261.1049 [Reserved]

Subsection BB -- Air Emission Standards for Equipment Leaks

§ 261.1050 Applicability

(a) The rules in this subsection apply to equipment that contains hazardous secondary materials excluded under the remanufacturing exclusion at §261.4(a)(27), unless the equipment operations are subject to the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63.

§ 261.1051 Definitions

As used in this Subsection, all terms shall have the meaning given them in § 261.1031, the Act, and Sections 260-266.

§ 261.1052 Standards: Pumps in light liquid service

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 261.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 261.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), provided the following requirements are met:

(1) Each dual mechanical seal system must be:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or

(ii) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of § 261.1060, or

(iii) Equipped with a system that purges the barrier fluid into a hazardous secondary materials stream with no detectable emissions to the atmosphere.

(2) The barrier fluid system must not be a hazardous secondary materials with organic concentrations 10 percent or greater by weight.

(3) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(4) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in paragraph (d)(3) of this section must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 261.1059.

(iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 261.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:

(1) Must have no externally actuated shaft penetrating the pump housing.

(2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 261.1063(c).

(3) Must be tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times as requested by the Director.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of § 261.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

§ 261.1053 Standards: Compressors

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of § 261.1060, or

(3) Equipped with a system that purges the barrier fluid into a hazardous secondary materials stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous secondary materials with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which

case the sensor must be checked daily.

(2) The remanufacturer or other person that stores or treats the hazardous secondary material shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 261.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of § 261.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 261.1064(g)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 261.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Director.

§ 261.1054 Standards: Pressure relief devices in gas/vapor service

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 261.1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 261.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 261.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in § 261.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

§ 261.1055 Standards: Sampling connecting systems

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container

are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

- (1) Return the purged process fluid directly to the process line; or
- (2) Collect and recycle the purged process fluid; or
- (3) Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of § 261.1085 through § 261.1087 of this subsection or a control device that complies with the requirements of § 261.1060 of this subsection.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 261.1056 Standards: Open-ended valves or lines

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous secondary materials stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous secondary materials stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

§ 261.1057 Standards: Valves in gas/vapor service or in light liquid service

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in § 261.1063(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section' and §§ 261.1061 and 261.1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 261.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

- (1) Tightening of bonnet bolts.

- (2) Replacement of bonnet bolts.
- (3) Tightening of packing gland nuts.
- (4) Injection of lubricant into lubricated packing.
- (f) Any valve that is designated, as described in § 261.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:
 - (1) Has no external actuating mechanism in contact with the hazardous secondary materials stream.
 - (2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 261.1063(c).
 - (3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Director.
- (g) Any valve that is designated, as described in § 261.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:
 - (1) The remanufacturer or other person that stores or treats the hazardous secondary material of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.
 - (2) The remanufacturer or other person that stores or treats the hazardous secondary material of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
- (h) Any valve that is designated, as described in § 261.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:
 - (1) The remanufacturer or other person that stores or treats the hazardous secondary material of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.
 - (2) The hazardous secondary materials management unit within which the valve is located was in operation before June 21, 1990.
 - (3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 261.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid service, and flanges and other connectors

- (a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in § 261.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.
- (b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 261.1059.
- (2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (d) First attempts at repair include, but are not limited to, the best practices described under § 261.1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of paragraph (a) of this section and from the recordkeeping requirements of § 261.1064 of this subsection.

§ 261.1059 Standards: Delay of repair

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous secondary materials management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous secondary materials management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous secondary materials management unit and that does not continue to contain or contact hazardous secondary materials with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The remanufacturer or other person that stores or treats the hazardous secondary material determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 261.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous secondary materials management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous secondary materials management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous secondary materials management unit shutdown will not be allowed unless the next hazardous secondary materials management unit shutdown occurs sooner than 6 months after the first hazardous secondary materials management unit shutdown.

§ 261.1060 Standards: Closed-vent systems and control devices

(a) Owners and operators of closed-vent systems and control devices subject to this subsection shall comply with the provisions of § 261.1033 of this section.

(b)(1) The remanufacturer or other person that stores or treats the hazardous secondary material at an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subsection on the effective date that the facility becomes subject to the provisions of this subsection must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subsection for installation and startup.

(2) Any units that begin operation after December 21, 1990, and are subject to the provisions of this subsection when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply.

(3) The remanufacturer or other person that stores or treats the hazardous secondary material at any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subsection shall comply with all requirements of this subsection as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subsection can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subsection. The remanufacturer or other person that stores or treats the hazardous secondary material shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(4) Owners and operators of facilities and units that become newly subject to the requirements of this subsection after December 8, 1997 due to an action other than those described in paragraph (b)(3) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subsection; the 30-month implementation schedule does not apply).

§ 261.1061 Alternative standards for valves in gas/vapor service or in light liquid service; percentage of valves allowed to leak

(a) A remanufacturer or other person that stores or treats the hazardous secondary material subject to the requirements of § 261.1057 of this rule may elect to have all valves within a hazardous secondary materials management unit comply with an alternative standard which allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if a remanufacturer or other person that stores or treats the hazardous secondary material decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Director.

(2) If a valve leak is detected, it shall be repaired in accordance with § 261.1057(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in § 261.1057 within the hazardous secondary materials management unit shall be monitored within 1 week by the methods specified in § 261.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in § 261.1057 for which leaks are detected by the total number of valves subject

to the requirements in § 261.1057 within the hazardous secondary materials management unit.

§ 261.1062 Alternative standards for valves in gas/vapor or in light liquid service; skip period leak detection and repair

(a) A remanufacturer or other person that stores or treats the hazardous secondary material subject to the requirements of § 261.1057 may elect for all valves within a hazardous secondary materials management unit to comply with one of the alternative work practices specified in paragraphs (b) (2) and (3) of this section.

(b)(1) A remanufacturer or other person that stores or treats the hazardous secondary material shall comply with the requirements for valves, as described in § 261.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, a remanufacturer or other person that stores or treats the hazardous secondary material may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every six months) for the valves subject to the requirements in § 261.1057 of this subsection.

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, a remanufacturer or other person that stores or treats the hazardous secondary material may begin to skip three of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to the requirements in § 261.1057 of this subsection.

(4) If the percentage of valves leaking is greater than 2 percent, the remanufacturer or other person that stores or treats the hazardous secondary material shall monitor monthly in compliance with the requirements in § 261.1057, but may again elect to use this section after meeting the requirements of § 261.1057(c)(1).

§ 261.1063 Test methods and procedures

(a) Each remanufacturer or other person that stores or treats the hazardous secondary material subject to the provisions of this Subsection shall comply with the test methods and procedures requirements provided in this section.

(b) Leak detection monitoring, as required in §§ 261.1052–261.1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions, as required in §§ 261.1052(e), 261.1053(i), 261.1054, and 261.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by § 261.13(b), a remanufacturer or other person that stores or treats the hazardous secondary material of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous secondary materials with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85 (incorporated by reference under § 260.11 of this rule);

(2) Method 9060A (incorporated by reference under § 260.11 of this Rule) of “Test Methods for Evaluating Solid Waste,” EPA Publication SW-846 or analyzed for its individual organic constituents; or

(3) Application of the knowledge of the nature of the hazardous secondary materials stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If a remanufacturer or other person that stores or treats the hazardous secondary material determines that a piece of equipment contains or contacts a hazardous secondary materials with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When a remanufacturer or other person that stores or treats the hazardous secondary material and the Director do not agree on whether a piece of equipment contains or contacts a hazardous secondary materials with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous secondary materials that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under § 260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of § 261.1034 (c)(1) through (c)(4).

§ 261.1064 Recordkeeping requirements

(a)(1) Each remanufacturer or other person that stores or treats the hazardous secondary material subject to the provisions of this Subsection shall comply with the recordkeeping requirements of this section.

(2) A remanufacturer or other person that stores or treats the hazardous secondary material in more than one hazardous secondary materials management unit subject to the provisions of this Subsection may comply with the recordkeeping requirements for these hazardous secondary materials management units in one recordkeeping system if the system identifies each record by each hazardous secondary materials management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which Subsection BB of Section 261 applies:

(i) Equipment identification number and hazardous secondary materials management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous secondary materials management unit on a facility plot plan).

(iii) Type of equipment (e.g., a pump or pipeline valve).

(iv) Percent-by-weight total organics in the hazardous secondary materials stream at the equipment.

(v) Hazardous secondary materials state at the equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(2) For facilities that comply with the provisions of § 261.1033(a)(2), an implementation schedule as specified in § 261.1033(a)(2).

(3) Where a remanufacturer or other person that stores or treats the hazardous secondary material chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in § 261.1035(b)(3).

(4) Documentation of compliance with § 261.1060, including the detailed design documentation or performance test results specified in § 261.1035(b)(4).

(c) When each leak is detected as specified in §§ 261.1052, 261.1053, 261.1057, and 261.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with § 261.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 261.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in §§ 261.1052, 261.1053, 261.1057, and 261.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

- (2) The date evidence of a potential leak was found in accordance with § 261.1058(a).
 - (3) The date the leak was detected and the dates of each attempt to repair the leak.
 - (4) Repair methods applied in each attempt to repair the leak.
 - (5) "Above 10,000" if the maximum instrument reading measured by the methods specified in § 261.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.
 - (6) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (7) Documentation supporting the delay of repair of a valve in compliance with § 261.1059(c).
 - (8) The signature of the remanufacturer or other person that stores or treats the hazardous secondary material (or designate) whose decision it was that repair could not be effected without a hazardous secondary materials management unit shutdown.
 - (9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
 - (10) The date of successful repair of the leak.
- (e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of § 261.1060 shall be recorded and kept up-to-date in the facility operating record as specified in § 261.1035(c). Design documentation is specified in § 261.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in § 261.1035 (c)(3)-(c)(8).
- (f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.
- (g) The following information pertaining to all equipment subject to the requirements in §§ 261.1052 through 261.1060 shall be recorded in a log that is kept in the facility operating record:
- (1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this Subsection.
 - (2)(i) A list of identification numbers for equipment that the remanufacturer or other person that stores or treats the hazardous secondary material elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of §§ 261.1052(e), 261.1053(i), and 261.1057(f).
 - (ii) The designation of this equipment as subject to the requirements of §§ 261.1052(e), 261.1053(i), or 261.1057(f) shall be signed by the remanufacturer or other person that stores or treats the hazardous secondary material.
 - (3) A list of equipment identification numbers for pressure relief devices required to comply with § 261.1054(a).
 - (4)(i) The dates of each compliance test required in §§ 261.1052(e), 261.1053(i), 261.1054, and 261.1057(f).
 - (ii) The background level measured during each compliance test.
 - (iii) The maximum instrument reading measured at the equipment during each compliance test.
 - (5) A list of identification numbers for equipment in vacuum service.
 - (6) Identification, either by list or location (area or group) of equipment that contains or

contacts hazardous secondary materials with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per calendar year.

(h) The following information pertaining to all valves subject to the requirements of § 261.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with § 261.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in §§ 261.1052(d)(5)(ii) and 261.1053(e)(2) and an explanation of the criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this Subsection and other specific Subsections:

(1) An analysis determining the design capacity of the hazardous secondary materials management unit.

(2) A statement listing the hazardous secondary materials influent to and effluent from each hazardous secondary materials management unit subject to the requirements in §§ 261.1052 through 261.1060 and an analysis determining whether these hazardous secondary materials are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§ 261.1052 through 261.1060. The record shall include supporting documentation as required by § 261.1063(d)(3) when application of the knowledge of the nature of the hazardous secondary materials stream or the process by which it was produced is used. If the remanufacturer or other person that stores or treats the hazardous secondary material takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in §§ 261.1052 through 261.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) The remanufacturer or other person that stores or treats the hazardous secondary material of any facility with equipment that is subject to this subsection and to leak detection, monitoring, and repair requirements under regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this subsection either by documentation pursuant to § 261.1064 of this subsection, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63

pursuant to the relevant provisions of the regulations at 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulation at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record.

§§ 261.1065 — 261.1079 [Reserved]

Subsection CC—Air Emission Standards for Tanks, Surface Impoundments, and Containers

§ 261.1080 Applicability

(a) The rules in this subpart apply to tanks and containers that contain hazardous secondary materials excluded under the remanufacturing exclusion at §261.4(a)(27), unless the tanks and containers are equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulations codified under 40 CFR part 60, part 61, or part 63.

(b) [Reserved]

§ 261.1081 Definitions

As used in this subsection, all terms not defined herein shall have the meaning given to them in the Act and Sections 260 through 266 of this rule.

“Average volatile organic concentration” or **“average VO concentration”** means the mass-weighted average volatile organic concentration of a hazardous secondary materials as determined in accordance with the requirements of § 261.1084 of this subsection.

“Closure device” means a cap, hatch, lid, plug, seal, valve, or other type of fitting that blocks an opening in a cover such that when the device is secured in the closed position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

“Continuous seal” means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

“Cover” means a device that provides a continuous barrier over the hazardous secondary materials managed in a unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings (such as access hatches, sampling ports, gauge wells) that are necessary for operation, inspection, maintenance, and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

“Enclosure” means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapors through a closed-vent system to a control device.

“External floating roof” means a pontoon-type or double-deck type cover that rests on the

surface of the material managed in a tank with no fixed roof.

“Fixed roof” means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the material managed in the unit.

“Floating membrane cover” means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous secondary materials being managed in a surface impoundment.

“Floating roof” means a cover consisting of a double deck, pontoon single deck, or internal floating cover which rests upon and is supported by the material being contained, and is equipped with a continuous seal.

“Hard-piping” means pipe or tubing that is manufactured and properly installed in accordance with relevant standards and good engineering practices.

“In light material service” means the container is used to manage a material for which both of the following conditions apply: The vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20°C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight.

“Internal floating roof” means a cover that rests or floats on the material surface (but not necessarily in complete contact with it) inside a tank that has a fixed roof.

“Liquid-mounted seal” means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

“Malfunction” means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

“Maximum organic vapor pressure” means the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor pressure-causing conditions (i.e., temperature, agitation, pH effects of combining wastes, etc.) reasonably expected to occur in the tank. For the purpose of this subsection, maximum organic vapor pressure is determined using the procedures specified in § 261.1084(c) of this subsection.

“Metallic shoe seal” means a continuous seal that is constructed of metal sheets which are held vertically against the wall of the tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

“No detectable organic emissions” means no escape of organics to the atmosphere as determined using the procedure specified in § 261.1084(d) of this subsection.

“Point of waste origination” means as follows:

- (1) When the remanufacturer or other person that stores or treats the hazardous secondary material is the generator of the hazardous secondary materials, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous secondary materials as defined in Section 261.

[Note: In this case, this term is being used in a manner similar to the use of the term “point of generation” in air standards established for waste management operations under authority of the Clean Air Act in 40 CFR Parts 60, 61, and 63].

- (2) When the remanufacturer or other person that stores or treats the hazardous secondary

material are not the generator of the hazardous secondary materials, point of waste origination means the point where the remanufacturer or other person that stores or treats the hazardous secondary material accepts delivery or takes possession of the hazardous secondary materials.

“Point of waste treatment” means the point where a hazardous secondary materials to be treated in accordance with § 261.1083(c)(2) of this subsection exits the treatment process. Any waste determination shall be made before the waste is conveyed, handled, or otherwise managed in a manner that allows the waste to volatilize to the atmosphere.

“Safety device” means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subsection, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the remanufacturer or other person that stores or treats the hazardous secondary material based on manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

“Single-seal system” means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted, or a metallic shoe seal.

“Vapor-mounted seal” means a continuous seal that is mounted such that there is a vapor space between the hazardous secondary materials in the unit and the bottom of the seal.

“Volatile organic concentration” or **“VO concentration”** means the fraction by weight of the volatile organic compounds contained in a hazardous secondary materials expressed in terms of parts per million (ppmw) as determined by direct measurement or by knowledge of the waste in accordance with the requirements of § 261.1084 of this subsection. For the purpose of determining the VO concentration of a hazardous secondary materials, organic compounds with a Henry’s law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in the liquid-phase ($0.1 Y/X$) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m³] at 25 degrees Celsius must be included. Appendix VI of this subsection presents a list of compounds known to have a Henry’s law constant value less than the cutoff level.

“Waste determination” means performing all applicable procedures in accordance with the requirements of § 261.1084 of this subsection to determine whether a hazardous secondary materials meets standards specified in this subsection. Examples of a waste determination include performing the procedures in accordance with the requirements of § 261.1084 of this subsection to determine the average VO concentration of a hazardous secondary materials at the point of waste origination; the average VO concentration of a hazardous secondary materials at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous secondary materials; the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous secondary materials and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous secondary materials in a tank and comparing the results to the applicable

standards.

“Waste stabilization process” means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous secondary materials or eliminate free liquids as determined by Test Method 9095B (Paint Filter Liquids Test) in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” as incorporated by reference in § 260.11 of this rule. A waste stabilization process includes mixing the hazardous secondary materials with binders or other materials, and curing the resulting hazardous secondary materials and binder mixture. Other synonymous terms used to refer to this process are “waste fixation” or “waste solidification.” This does not include the adding of absorbent materials to the surface of a waste, without mixing, agitation, or subsequent curing, to absorb free liquid.

§ 261.1082 Standards: General

(a) This section applies to the management of hazardous secondary materials in tanks, surface impoundments, and containers subject to this subsection.

(b) The remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from each hazardous secondary material management unit in accordance with standards specified in §§261.1084 through 261.1087 of this subsection, as applicable to the hazardous secondary material management unit, except as provided for in paragraph (c) of this section.

(c) A tank or container is exempt from standards specified in §§261.1084 through 261.1087 of this subpart, as applicable, provided that the hazardous secondary material management unit is a tank or container for which all hazardous secondary material entering the unit has an average VO concentration at the point of material origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in §261.1083(a) of this subpart. The remanufacturer or other person that stores or treats the hazardous secondary material shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous secondary material streams entering the unit.

§ 261.1083 Waste determination procedures

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous secondary material at the point of waste origination.

(1) A remanufacturer or other person that stores or treats the hazardous secondary material shall determine the average VO concentration at the point of waste origination for each hazardous secondary materials placed in a waste management unit exempted under the provisions of § 261.1083(c)(1) of this subsection from using air emission controls in accordance with standards specified in § 261.1085 through § 261.1088 of this subsection, as applicable to the waste management unit.

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous secondary materials stream is placed in a waste management unit exempted under the provisions of § 261.1083(c)(1) of this subsection from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous secondary materials is managed in the unit;

and

(ii) Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous secondary materials to increase to a level that is equal to or greater than the VO concentration limit specified in § 261.1083(c)(1) of this subsection.

(2) For a waste determination that is required by paragraph (a)(1) of this section, the average VO concentration of a hazardous secondary materials at the point of waste origination shall be determined using either direct measurement as specified in paragraph (a)(3) of this section or by knowledge as specified in paragraph (a)(4) of this section.

(3) Direct measurement to determine average VO concentration of a hazardous secondary materials at the point of waste origination.

(i) Identification. The remanufacturer or other person that stores or treats the hazardous secondary material shall identify and record the point of waste origination for the hazardous secondary materials.

(ii) Sampling. Samples of the hazardous secondary materials stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous secondary materials stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the remanufacturer or other person that stores or treats the hazardous secondary material determines is appropriate for the hazardous secondary materials stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous secondary materials determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous secondary materials stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the remanufacturer or other person that stores or treats the hazardous secondary material and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous secondary materials stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of acceptable sample collection and handling procedures for a total volatile organic constituent concentration may be found in Method 25D in 40 CFR part 60, appendix A.

(D) Sufficient information, as specified in the "site sampling plan" required under

paragraph (a)(3)(ii)(C) of this section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous secondary materials represented by the samples.

(iii) Analysis. Each collected sample shall be prepared and analyzed in accordance with Method 25D in 40 CFR part 60, appendix A for the total concentration of volatile organic constituents, or using one or more methods when the individual organic compound concentrations are identified and summed and the summed waste concentration accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m³] at 25 degrees Celsius. At the remanufacturer's or other persons that store or treat the hazardous secondary material discretion, the remanufacturer or other person that stores or treats the hazardous secondary material may adjust test data obtained by any appropriate method to discount any contribution to the total volatile organic concentration that is a result of including a compound with a Henry's law constant value of less than 0.1 Y/X at 25 degrees Celsius. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the remanufacturer or other person that stores or treats the hazardous secondary material elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 degrees Celsius contained in the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. Other test methods may be used if they meet the requirements in paragraph (a)(3)(iii)(A) or (B) of this section and provided the requirement to reflect all organic compounds in the waste with Henry's law constant values greater than or equal to 0.1 Y/X [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m³] at 25 degrees Celsius, is met.

(A) Any EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods," 40 CFR part 63, appendix D.

(B) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations.

(A) The average VO concentration (C) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with paragraphs (a)(3)(ii) and (iii) of this section and the following equation:

$$C_{avg} = \frac{1}{Q_T} \times \sum_{j=1}^m (Q_j \times C_j)$$

Where

C = Average VO concentration of the hazardous secondary materials at the point of waste origination on a mass-weighted basis, ppmw.

i = Individual sample “i” of the hazardous secondary materials.

n = Total number of samples of the hazardous secondary materials collected (at least 4) for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of hazardous secondary materials stream represented by C_i, kg/hr.

Q_T = Total mass quantity of hazardous secondary materials during the averaging period, kg/hr.

C_i = Measured VO concentration of sample “i” as determined in accordance with the requirements of ‘261.1084(a)(3)(iii) of this subsection, ppmw.

(B) For the purpose of determining C_i, for individual waste samples analyzed in accordance with paragraph (a)(3)(iii) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(1) If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A.

(2) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry’s law constant values at least 0.1 mole-fraction-in-the- gas-phase/mole-fraction-in- the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10⁻⁶ atmospheres/gram-mole/m³] at 25°C.

(v) Provided that the test method is appropriate for the waste as required under paragraph (a)(3)(iii) of this section, the EPA will determine compliance based on the test method used by the remanufacturer or other person that stores or treats the hazardous secondary material as recorded pursuant to Sec. 261.1090(f)(1) of this subsection.

(4) Use of knowledge by the remanufacturer or other person that stores or treats the hazardous secondary material to determine average VO concentration of a hazardous secondary materials at the point of waste origination.

(i) Documentation shall be prepared that presents the information used as the basis for the owner’s or operator’s knowledge of the hazardous secondary materials stream’s average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous secondary materials stream; constituent-specific chemical test data for the hazardous secondary materials stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices.

(ii) If test data are used as the basis for knowledge, then the remanufacturer or other

person that stores or treats the hazardous secondary material shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, a remanufacturer or other person that stores or treats the hazardous secondary material may use organic concentration test data for the hazardous secondary materials stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the waste.

(iii) A remanufacturer or other person that stores or treats the hazardous secondary material using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous secondary materials may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D).

(iv) In the event that the Director and the remanufacturer or other person that stores or treats the hazardous secondary material disagree on a determination of the average VO concentration for a hazardous secondary materials stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in paragraph (a)(3) of this section shall be used to establish compliance with the applicable requirements of this subsection. The Director may perform or request that the remanufacturer or other person that stores or treats the hazardous secondary material perform this determination using direct measurement. The remanufacturer or other person that stores or treats the hazardous secondary material may then choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of paragraph (a)(3)(iii) of this section.

(b) [Reserved]

(c) Procedure to determine the maximum organic vapor pressure of a hazardous secondary material in a tank.

(1) A remanufacturer or other person that stores or treats the hazardous secondary material shall determine the maximum organic vapor pressure for each hazardous secondary materials placed in a tank using Tank Level 1 controls in accordance with the standards specified in § 261.1085(c) of this subsection.

(2) A remanufacturer or other person that stores or treats the hazardous secondary material shall use either direct measurement as specified in paragraph (c)(3) of this section or knowledge of the waste as specified by paragraph (c)(4) of this section to determine the maximum organic vapor pressure which is representative of the hazardous secondary materials composition stored or treated in the tank.

(3) Direct measurement to determine the maximum organic vapor pressure of a hazardous secondary materials.

(i) Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the remanufacturer or other person that stores or treats the hazardous secondary material and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the

hazardous secondary materials are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of acceptable sample collection and handling procedures may be found in Method 25D in 40 CFR part 60, appendix A.

(ii) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous secondary materials:

- (A) Method 25E in 40 CFR part 60 appendix A;
- (B) Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," (incorporated by reference - refer to § 260.11 of this rule);
- (C) Methods obtained from standard reference texts;
- (D) ASTM Method 2879-92 (incorporated by reference - refer to § 260.11 of this rule); or
- (E) Any other method approved by the Director.

(4) Use of knowledge to determine the maximum organic vapor pressure of the hazardous secondary materials. Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum organic vapor pressure of the hazardous secondary materials is less than the maximum vapor pressure limit listed in § 261.1085(b)(1)(i) of this subsection for the applicable tank design capacity category. An example of information that may be used is documentation that the hazardous secondary materials is generated by a process for which at other locations it previously has been determined by direct measurement that the waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(d) Procedure for determining no detectable organic emissions for the purpose of complying with this subsection:

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: The interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve.

(2) The test shall be performed when the unit contains a hazardous secondary materials having an organic concentration representative of the range of concentrations for the hazardous secondary materials expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous secondary materials placed in the waste management unit, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the

procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

- (i) Zero air (less than 10 ppmv hydrocarbon in air), and
- (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane.

(6) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21 of 40 CFR part 60, appendix A. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in paragraph (d)(9) of this section. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(9) For the seals around a rotating shaft that passes through a cover opening, the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no detectable organic emissions.

§ 261.1084 Standards: Tanks

(a) The provisions of this section apply to the control of air pollutant emissions from tanks for which § 261.1083(b) of this subsection references the use of this section for such air emission control.

(b) The remanufacturer or other person that stores or treats the hazardous secondary material remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from each tank subject to this section in accordance with the following requirements, as applicable:

(1) For a tank that manages hazardous secondary materials that meets all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in paragraph (c) of this section or the Tank Level 2 controls specified in paragraph (d) of this section.

(i) The hazardous secondary materials in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m³, the maximum

organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m³ but less than 151 m³, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m³, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous secondary materials in the tank is not heated by the remanufacturer or other person that stores or treats the hazardous secondary material to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous secondary materials is determined for the purpose of complying with paragraph (b)(1)(i) of this section.

(iii) The hazardous secondary materials in the tank is not treated by the remanufacturer or other person that stores or treats the hazardous secondary material using a waste stabilization process, as defined in § 261.1081 of this subsection.

(2) For a tank that manages hazardous secondary materials that does not meet all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section. Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous secondary materials in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in paragraph (b)(1)(i) of this section.

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in paragraphs (c)(1) through (c)(4) of this section:

(1) The remanufacturer or other person that stores or treats the hazardous secondary material shall determine the maximum organic vapor pressure for a hazardous secondary materials to be managed in the tank using Tank Level 1 controls before the first time the hazardous secondary materials is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in § 261.1084(c) of this subsection. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform a new determination whenever changes to the hazardous secondary materials managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in paragraph (b)(1)(i) of this section, as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous secondary materials in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral section of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of

the roof edge and the tank wall.

(iii) Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either:

(A) Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous secondary materials is managed in the tank, except as provided for in paragraphs (c)(2)(iii)(B)(1) and (2) of this section.

(1) During periods it is necessary to provide access to the tank for performing the activities of paragraph (c)(2)(iii)(B)(2) of this section, venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

(2) During periods of routine inspection, maintenance, or other activities needed for normal operations, and for the removal of accumulated sludge or other residues from the bottom of the tank.

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous secondary materials to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous secondary materials or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) Whenever a hazardous secondary materials is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate

with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the remanufacturer or other person that stores or treats the hazardous secondary material based on the tank manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in § 261.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year except under the special conditions provided for in paragraph (l) of this section.

(iii) In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(iv) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in § 261.1090(b) of this subsection.

(d) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an

enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions from a tank using a fixed-roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in § 261.1081 of this subsection; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The remanufacturer or other person that stores or treats the hazardous secondary material shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous secondary materials surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the internal floating roof components as follows except as provided in paragraph (e)(3)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in paragraph (e)(3)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the remanufacturer or other person that stores or treats the hazardous secondary material may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by paragraph (e)(3)(ii) or (e)(3)(iii) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the remanufacturer or other person that stores or treats the hazardous secondary material so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (e)(3)(iv)(B) of this section.

(B) When a visual inspection is not planned and the remanufacturer or other person that stores or treats the hazardous secondary material could not have known about the inspection 30 calendar days before refilling the tank, the remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the

requirements of paragraph (k) of this section.

(vi) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in '261.1090(b) of this subsection.

(4) Safety devices, as defined in § 261.1081 of this subsection, may be installed and operated as necessary on any tank complying with the requirements of paragraph (e) of this section.

(f) The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The remanufacturer or other person that stores or treats the hazardous secondary material shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in § 261.1081 of this subsection. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm²) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm²) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of

the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The remanufacturer or other person that stores or treats the hazardous secondary material shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the external floating roof in accordance with the procedures specified as follows:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

(B) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

(C) If a tank ceases to hold hazardous secondary materials for a period of 1 year or more, subsequent introduction of hazardous secondary materials into the tank shall be considered an initial operation for the purposes of paragraphs (f)(3)(i)(A) and (f)(3)(i)(B) of this section.

(D) The remanufacturer or other person that stores or treats the hazardous

secondary material shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(1) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(2) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

(3) For a seal gap measured under paragraph (f)(3) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(4) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in paragraph (f)(1)(ii) of this section.

(E) In the event that the seal gap measurements do not conform to the specifications in paragraph (f)(1)(ii) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(F) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in § 261.1090(b) of this subsection.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(C) In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance

with the requirements of paragraph (k) of this section.

(D) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in § 261.1090(b) of this subsection.

(iii) Prior to each inspection required by paragraph (f)(3)(i) or (f)(3)(ii) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under paragraph (f)(3)(i) of this section, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the remanufacturer or other person that stores or treats the hazardous secondary material so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (f)(3)(iii)(C) of this section.

(C) When a visual inspection is not planned and the remanufacturer or other person that stores or treats the hazardous secondary material could not have known about the inspection 30 calendar days before refilling the tank, the remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(4) Safety devices, as defined in § 261.1081 of this subsection, may be installed and operated as necessary on any tank complying with the requirements of paragraph (f) of this section.

(g) The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the

pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous secondary materials to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 261.1088 of this subsection.

(2) Whenever a hazardous secondary materials is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in § 261.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the remanufacturer or other person that stores or treats the hazardous secondary material in accordance with the procedures specified in § 261.1088 of this subsection.

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year except for the special conditions

provided for in paragraph (l) of this section.

(iv) In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(v) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in § 261.1090(b) of this subsection.

(h) The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in § 261.1084(d) of this subsection.

(3) Whenever a hazardous secondary materials is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in paragraph (h)(3)(i) or (h)(3)(ii) of this section.

(i) At those times when opening of a safety device, as defined in § 261.1081 of this subsection, is required to avoid an unsafe condition.

(ii) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of § 261.1088 of this subsection.

(i) The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The remanufacturer or other person that stores or treats the hazardous secondary material shall perform the verification procedure for the enclosure as specified in Section 5.0 to “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in § 261.1088 of this subsection.

(3) Safety devices, as defined in § 261.1081 of this subsection, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (i)(1) and (i)(2) of this section.

(4) The remanufacturer or other person that stores or treats the hazardous secondary

material shall inspect and monitor the closed-vent system and control device as specified in § 261.1088 of this subsection.

(j) The remanufacturer or other person that stores or treats the hazardous secondary material shall transfer hazardous secondary materials to a tank subject to this section in accordance with the following requirements:

(1) Transfer of hazardous secondary materials, except as provided in paragraph (j)(2) of this section, to the tank from another tank subject to this section or from a surface impoundment subject to § 261.1086 of this subsection shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous secondary materials to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR - National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (j)(1) do not apply when transferring a hazardous secondary materials to the tank under any of the following conditions:

(i) The hazardous secondary materials meets the average VO concentration conditions specified in § 261.1083(c)(1) of this subsection at the point of waste origination.

(ii) The hazardous secondary materials has been treated by an organic destruction or removal process to meet the requirements in § 261.1083(c)(2) of this subsection.

(iii) The hazardous secondary materials meets the requirements of § 261.1083(c)(4) of this subsection.

(k) The remanufacturer or other person that stores or treats the hazardous secondary material shall repair each defect detected during an inspection performed in accordance with the requirements of paragraphs (c)(4), (e)(3), (f)(3), or (g)(3) of this section as follows:

(1) The remanufacturer or other person that stores or treats the hazardous secondary material shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (k)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the remanufacturer or other person that stores or treats the hazardous secondary material determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous secondary materials normally managed in the tank. In this case, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect the next time the process or unit that is generating the hazardous secondary materials managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subsection, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the remanufacturer or other person that stores or treats the hazardous secondary material may designate a cover as an “unsafe to inspect and monitor cover” and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the

cover, using the procedures specified in the applicable section of this subsection, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried partially or entirely underground, an remanufacturer or other person that stores or treats the hazardous secondary material is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

§ 261.1085 [Reserved]

§ 261.1086 Standards: Containers

(a) The provisions of this section apply to the control of air pollutant emissions from containers for which § 261.1083(b) of this subsection references the use of this section for such air emission control.

(b) General requirements.

(1) The remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in paragraph (b)(2) of this section apply to the container.

(i) For a container having a design capacity greater than 0.1 m³ and less than or equal to 0.46 m³, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(ii) For a container having a design capacity greater than 0.46 m³ that is not in light material service, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(iii) For a container having a design capacity greater than 0.46 m³ that is in light material service, the shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in paragraph (d) of this section.

(2) [Reserved]

(c) Container Level 1 standards.

(1) A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a “portable tank” or bulk cargo

container equipped with a screw-type cap).

(iii) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous secondary materials in the container such that no hazardous secondary materials is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of paragraph (c)(1)(ii) or (c)(1)(iii) of this section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous secondary materials to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous secondary materials or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(3) Whenever a hazardous secondary materials is in a container using Container Level 1 controls, the remanufacturer or other person that stores or treats the hazardous secondary material shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous secondary materials or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous secondary materials from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in § 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in § 261.7(b), the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed

position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous secondary materials. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the container internal pressure in accordance with the design specifications of the container. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the remanufacturer or other person that stores or treats the hazardous secondary material based on container manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 261.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The remanufacturer or other person that stores or treats the hazardous secondary material of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous secondary materials already is in the container at the time the remanufacturer or other person that stores or treats the hazardous secondary material first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in § 261.7(b)), the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subsection CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility

remanufacturer or other person that stores or treats the hazardous secondary material enters on Item 20 of the Hazardous secondary materials Manifest in the appendix to Section 262 (EPA Forms 8700-22 and 8700-22A), as required under subsection E of this section, at § 261.71. If a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous secondary materials remains at the facility for a period of 1 year or more, the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the remanufacturer or other person that stores or treats the hazardous secondary material shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous secondary materials shall be removed from the container and the container shall not be used to manage hazardous secondary materials until the defect is repaired.

(5) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m³ or greater, which do not meet applicable DOT regulations as specified in paragraph (f) of this section, are not managing hazardous secondary materials in light material service.

(d) Container Level 2 standards.

(1) A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container that operates with no detectable organic emissions as defined in § 261.1081 of this subsection and determined in accordance with the procedure specified in paragraph (g) of this section.

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, appendix A, Method 27 in accordance the procedure specified in paragraph (h) of this section.

(2) Transfer of hazardous secondary materials in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous secondary materials to the atmosphere, to the extent practical, considering the physical properties of the hazardous secondary materials and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other

submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous secondary materials is filled and subsequently purging the transfer line before removing it from the container opening.

(3) Whenever a hazardous secondary materials is in a container using Container Level 2 controls, the remanufacturer or other person that stores or treats the hazardous secondary material shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous secondary materials or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous secondary materials from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in § 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in § 261.7(b), the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous secondary materials. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the remanufacturer or other person that stores or treats the

hazardous secondary material remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the remanufacturer or other person that stores or treats the hazardous secondary material based on container manufacturer recommendations, applicable rules, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 261.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The remanufacturer or other person that stores or treats the hazardous secondary material of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous secondary materials already is in the container at the time the remanufacturer or other person that stores or treats the hazardous secondary material first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in § 261.7(b)), the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subsection CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility remanufacturer or other person that stores or treats the hazardous secondary material enters on Item 20 of the Hazardous secondary materials Manifest in the appendix to Section 262 (EPA Forms 8700-22 and 8700-22A), as required under subsection E of this section, at § 261.71. If a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous secondary materials remains at the facility for a period of 1 year or more, the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container

and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the remanufacturer or other person that stores or treats the hazardous secondary material shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous secondary materials shall be removed from the container and the container shall not be used to manage hazardous secondary materials until the defect is repaired.

(e) Container Level 3 standards.

(1) A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of paragraph (e)(2)(ii) of this section.

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) The remanufacturer or other person that stores or treats the hazardous secondary material remanufacturer or other person that stores or treats the hazardous secondary material shall meet the following requirements, as applicable to the type of air emission control equipment selected by the remanufacturer or other person that stores or treats the hazardous secondary material:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The remanufacturer or other person that stores or treats the hazardous secondary material shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 261.1088 of this subsection.

(3) Safety devices, as defined in § 261.1081 of this subsection, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph (e)(1) of this section.

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of this subsection shall inspect and monitor the closed-vent systems and control devices as specified in § 261.1088 of this subsection.

(5) Owners and operators that use Container Level 3 controls in accordance with the

provisions of this subsection shall prepare and maintain the records specified in § 261.1090(d) of this subsection.

(6) Transfer of hazardous secondary materials in or out of a container using Container Level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous secondary materials to the atmosphere, to the extent practical, considering the physical properties of the hazardous secondary materials and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous secondary materials is filled and subsequently purging the transfer line before removing it from the container opening.

(f) For the purpose of compliance with paragraph (c)(1)(i) or (d)(1)(i) of this section, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178 - Specifications for Packaging or 49 CFR part 179 - Specifications for Tank Cars.

(2) Hazardous secondary materials is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B - Exemptions; 49 CFR part 172 - Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173 - Shippers - General Requirements for Shipments and Packages; and 49 CFR part 180 - Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with this subsection, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in paragraph (f)(4) of this section.

(4) For a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with this subsection, a remanufacturer or other person that stores or treats the hazardous secondary material may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) To determine compliance with the no detectable organic emissions requirements of paragraph (d)(1)(ii) of this section, the procedure specified in § 261.1084(d) of this subsection shall be used.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, appendix A for the purpose of complying with paragraph (d)(1)(iii) of this section.

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, appendix A.

(2) A pressure measurement device shall be used that has a precision of “ 2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

§ 261.1087 Standards: Closed-vent systems and control devices

(a) This section applies to each closed-vent system and control device installed and operated by the remanufacturer or other person that stores or treats the hazardous secondary material to control air emissions in accordance with standards of this subsection.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous secondary materials in the waste management unit to a control device that meets the requirements specified in paragraph (c) of this section.

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in § 261.1033(j) of this section.

(3) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in paragraph (b)(3)(i) of this section or a seal or locking device as specified in paragraph (b)(3)(ii) of this section. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with paragraph (b)(3) of this section, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with paragraph (b)(3) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the remanufacturer or other person that stores or treats the hazardous secondary material in accordance with the procedure specified in § 261.1033(k).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of § 261.1033(c); or

(iii) A flare designed and operated in accordance with the requirements of § 261.1033(d).

(2) The remanufacturer or other person that stores or treats the hazardous secondary material who elects to use a closed-vent system and control device to comply with the requirements of this section shall comply with the requirements specified in paragraphs

(c)(2)(i) through (c)(2)(vi) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during a control device system malfunction.

(iv) The remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate compliance with the requirements of paragraph (c)(2)(i) of this section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year) by recording the information specified in § 261.1090(e)(1)(v) of this subsection.

(v) The remanufacturer or other person that stores or treats the hazardous secondary material shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The remanufacturer or other person that stores or treats the hazardous secondary material shall operate the closed-vent system such that gases, vapors, and/or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The remanufacturer or other person that stores or treats the hazardous secondary material using a carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of § 261.1033(g) or § 261.1033(h).

(ii) All carbon that is a hazardous secondary materials and that is removed from the control device shall be managed in accordance with the requirements of § 261.1033(m), regardless of the average volatile organic concentration of the carbon.

(4) A remanufacturer or other person that stores or treats the hazardous secondary material using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the requirements of § 261.1033(i).

(5) The remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate that a control device achieves the performance requirements of paragraph (c)(1) of this section as follows:

(i) A remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate using either a performance test as specified in paragraph (c)(5)(iii) of this section or a design analysis as specified in paragraph (c)(5)(iv) of this

section the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or process heater burning hazardous secondary materials for which the remanufacturer or other person that stores or treats the hazardous secondary material has been issued a final permit under Section 270 and has designed and operates the unit in accordance with the requirements of Section 266, subsection H; or

(E) A boiler or process heater burning hazardous secondary materials for which the remanufacturer or other person that stores or treats the hazardous secondary material has designed and operates in compliance with the interim status requirements of Section 266, subsection H.

(ii) A remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate the performance of each flare in accordance with the requirements specified in § 261.1033(e).

(iii) For a performance test conducted to meet the requirements of paragraph (c)(5)(i) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall use the test methods and procedures specified in § 261.1034(c)(1) through (c)(4).

(iv) For a design analysis conducted to meet the requirements of paragraph (c)(5)(i) of this section, the design analysis shall meet the requirements specified in § 261.1035(b)(4)(iii).

(v) The remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate that a carbon adsorption system achieves the performance requirements of paragraph (c)(1) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the remanufacturer or other person that stores or treats the hazardous secondary material and the Director do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the remanufacturer or other person that stores or treats the hazardous secondary material in accordance with the requirements of paragraph (c)(5)(iii) of this section. The Director may choose to have an authorized representative observe the performance test.

(7) The closed-vent system and control device shall be inspected and monitored by the remanufacturer or other person that stores or treats the hazardous secondary material in accordance with the procedures specified in § 261.1033(f)(2) and § 261.1033(k). The readings from each monitoring device required by § 261.1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this section.

§ 261.1088 Inspection and monitoring requirements

(a) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect and monitor air emission control equipment used to comply with this subsection in accordance with the applicable requirements specified in § 261.1085 through § 261.1088 of this subsection.

(b) The remanufacturer or other person that stores or treats the hazardous secondary material shall develop and implement a written plan and schedule to perform the inspections and monitoring required by paragraph (a) of this section. The remanufacturer or other person that stores or treats the hazardous secondary material shall incorporate this plan and schedule into the facility inspection plan required under § 261.15.

§ 261.1089 Recordkeeping requirements

(a) Each remanufacturer or other person that stores or treats the hazardous secondary material of a facility subject to requirements in this subsection shall record and maintain the information specified in paragraphs (b) through (j) of this section, as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraphs (i) and (j) of this section, records required by this section shall be maintained in the operating record for a minimum of 3 years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by paragraphs (i) and (j) of this section shall be maintained in the operating record for as long as the tank or container is not using air emission controls specified in §§ 264.1084 through 264.1087 of this subsection in accordance with the conditions specified in § 264.1084(d) of this subsection.

(b) The remanufacturer or other person that stores or treats the hazardous secondary material of a tank using air emission controls in accordance with the requirements of § 261.1085 of this subsection shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of § 261.1085 of this subsection, the remanufacturer or other person that stores or treats the hazardous secondary material shall record:

(i) A tank identification number (or other unique identification description as selected by the remanufacturer or other person that stores or treats the hazardous secondary material).

(ii) A record for each inspection required by § 261.1085 of this subsection that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 261.1085 of this subsection, the remanufacturer or other person that stores or treats the hazardous secondary material shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(2) In addition to the information required by paragraph (b)(1) of this section, the remanufacturer or other person that stores or treats the hazardous secondary material shall record the following information, as applicable to the tank:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material using a fixed roof to comply with the Tank Level 1 control requirements specified in § 261.1085(c) of this subsection shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous secondary materials in the tank performed in accordance with the requirements of § 261.1085(c) of this subsection. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material using an internal floating roof to comply with the Tank Level 2 control requirements specified in § 261.1085(e) of this subsection shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in § 261.1085(f) of this subsection shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by §261.1085(f)(3) of this subsection describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in §261.1085(f)(1) of this subsection, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each remanufacturer or other person that stores or treats the hazardous secondary material using an enclosure to comply with the Tank Level 2 control requirements specified in § 261.1085(i) of this subsection shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the remanufacturer or other person that stores or treats the hazardous secondary material to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(c) [Reserved]

(d) The remanufacturer or other person that stores or treats the hazardous secondary material of containers using Container Level 3 air emission controls in accordance with the requirements of § 261.1087 of this subsection shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the remanufacturer or other person that stores or treats the hazardous secondary material to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B.

(2) Records required for the closed-vent system and control device in accordance with the

requirements of paragraph (e) of this section.

(e) The remanufacturer or other person that stores or treats the hazardous secondary material using a closed-vent system and control device in accordance with the requirements of § 261.1088 of this subsection shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the remanufacturer or other person that stores or treats the hazardous secondary material stating that the control device is designed to operate at the performance level documented by a design analysis as specified in paragraph (e)(1)(ii) of this section or by performance tests as specified in paragraph (e)(1)(iii) of this section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in §261.1035(b)(4). The documentation shall include information prepared by the remanufacturer or other person that stores or treats the hazardous secondary material or provided by the control device manufacturer or vendor that describes the control device design in accordance with APC&EC Rule No. 23 261.1035(b)(4)(iii) and certification by the remanufacturer or other person that stores or treats the hazardous secondary material that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in § 261.1035(b)(3) and all test results.

(iv) Information as required by § 261.1035(c)(1) and § 261.1035(c)(2), as applicable.

(v) A remanufacturer or other person that stores or treats the hazardous secondary material shall record, on a semiannual basis, the information specified in paragraphs (e)(1)(v)(A) and (e)(1)(v)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of § 261.1088(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of § 261.1088(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable, due to planned routine maintenance.

(vi) A remanufacturer or other person that stores or treats the hazardous secondary material shall record the information specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of § 261.1088(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control

device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with § 261.1088(c)(3)(ii) of this subsection.

(f) The remanufacturer or other person that stores or treats the hazardous secondary material of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of § 261.1083(c) of this subsection shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, or containers exempted under the hazardous secondary materials organic concentration conditions specified in § 261.1083(c)(1) or § 261.1083(c)(2)(i) through (c)(2)(vi) of this subsection, the remanufacturer or other person that stores or treats the hazardous secondary material shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the remanufacturer or other person that stores or treats the hazardous secondary material shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of § 261.1084 of this subsection.

(2) [Reserved]

(g) A remanufacturer or other person that stores or treats the hazardous secondary material designating a cover as “unsafe to inspect and monitor” pursuant to § 261.1085(l) or § 261.1086(g) of this subsection shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as “unsafe to inspect and monitor,” the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The remanufacturer or other person that stores or treats the hazardous secondary material of a facility that is subject to this subsection and to the control device standards in 40 CFR section 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of this subsection by documentation either pursuant to this subsection, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by this section.

Appendix I to Section 261 -- Representative Sampling Methods

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Division to be representative of the waste.

Extremely viscous liquid -- ASTM Standard D140-70 ***Crushed or powdered material*** -- ASTM Standard D346-75 ***Soil or rock-like material*** -- ASTM Standard D420-69 ***Soil-like material*** -- ASTM Standard D1452-65 ***Fly Ash-like material*** -- ASTM Standard D2234-76 [ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103]
Containerized liquid wastes -- “COLIWASA.”

Liquid waste in pits, ponds, lagoons, and similar reservoirs. -- “Pond Sampler.”

Appendix II to Section 261 – (Reserved).

Appendix III to Section 261 – (Reserved) Chemical Analysis Test Methods

Appendix IV to Section 261 -- [Reserved for Radioactive Waste Test Methods]

Appendix V to Section 261 -- [Reserved for Infectious Waste Treatment Specifications]

Appendix VI to Section 261 -- [Reserved for Etiologic Agents]

Appendix VII to Section 261 -- Basis for Listing Hazardous Waste

| EPA hazardous waste No. | Hazardous constituents for which listed # |
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| F001 | Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons. |
| F002 | Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane. |
| F003 | N.A. |
| F004 | Cresols and cresylic acid, nitrobenzene. |
| F005 | Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane. |
| F006 | Cadmium, hexavalent chromium, nickel, cyanide (complexed). |
| F007 | Cyanide (salts). |
| F008 | Cyanide (salts). |
| F009 | Cyanide (salts). |
| F010 | Cyanide (salts). |
| F011 | Cyanide (salts). |
| F012 | Cyanide (complexed). |
| F019 | Hexavalent chromium, cyanide (complexed). |
| F020 | Tetra- and pentachlorodibenzo- <i>p</i> -dioxins; tetra and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F021 | Penta- and hexachlorodibenzo- <i>p</i> - dioxins; penta- and hexachlorodibenzofurans; |

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| | pentachlorophenol and its derivatives. |
| F022 | Tetra-, penta-, and hexachlorodibenzo- <i>p</i> -dioxins; tetra-, penta-, and hexachlorodibenzofurans. |
| F023 | Tetra-, and pentachlorodibenzo- <i>p</i> -dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F024 | Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorobenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene. |
| F025 | Chloromethane; Dichloromethane; Trichloromethane; Carbon tetrachloride; Chloroethylene; 1,1-Dichloroethane; 1,2-Dichloroethane; trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Pentachloroethane; Hexachloroethane; Allyl chloride (3-Chloropropene); Dichloropropane; Dichloropropene; 2-Chloro-1,3-butadiene; Hexachloro-1,3-butadiene; Hexachlorocyclopentadiene; Benzene; Chlorobenzene; Dichlorobenzene; 1,2,4-Trichlorobenzene; Tetrachlorobenzene; Pentachlorobenzene; Hexachlorobenzene; Toluene; Naphthalene. |
| F026 | Tetra-, penta-, and hexachlorodibenzo- <i>p</i> -dioxins; tetra-, penta-, and hexachlorodibenzofurans. |
| F027 | Tetra-, penta-, and hexachlorodibenzo- <i>p</i> - dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F028 | Tetra-, penta-, and hexachlorodibenzo- <i>p</i> - dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts. |
| F032 | Benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)-anthracene, indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chromium, tetra-, penta-, hexa-, heptachlorodibenzo- <i>p</i> -dioxins, tetra-, penta-, hexa-, heptachlorodibenzofurans. |
| F034 | Benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic, chromium. |
| F035 | Arsenic, chromium, lead. |
| F037 | Benzene, benzo(a)pyrene, chrysene, lead, chromium. |

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| F038 | Benzene, benzo(a)pyrene, chrysene, lead, chromium. |
| F039 | All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under 40 CFR 268.43, Table CCW. |
| K001 | Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene. |
| K002 | Hexavalent chromium, lead |
| K003 | Hexavalent chromium, lead. |
| K004 | Hexavalent chromium. |
| K005 | Hexavalent chromium, lead. |
| K006 | Hexavalent chromium. |
| K007 | Cyanide (complexed), hexavalent chromium. |
| K008 | Hexavalent chromium. |
| K009 | Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid. |
| K010 | Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde. |
| K011 | Acrylonitrile, acetonitrile, hydrocyanic acid. |
| K013 | Hydrocyanic acid, acrylonitrile, acetonitrile. |
| K014 | Acetonitrile, acrylamide. |
| K015 | Benzyl chloride, chlorobenzene, toluene, benzotrichloride. |
| K016 | Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene. |
| K017 | Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols. |
| K018 | 1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene. |
| K019 | Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride. |
| K020 | Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl |

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| | chloride, vinylidene chloride. |
| K021 | Antimony, carbon tetrachloride, chloroform. |
| K022 | Phenol, tars (polycyclic aromatic hydrocarbons). |
| K023 | Phthalic anhydride, maleic anhydride. |
| K024 | Phthalic anhydride, 1,4-naphthoquinone. |
| K025 | Meta-dinitrobenzene, 2,4-dinitrotoluene. |
| K026 | Paraldehyde, pyridines, 2-picoline. |
| K027 | Toluene diisocyanate, toluene-2, 4-diamine. |
| K028 | 1,1,1-trichloroethane, vinyl chloride. |
| K029 | 1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform. |
| K030 | Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride. |
| K031 | Arsenic. |
| K032 | Hexachlorocyclopentadiene. |
| K033 | Hexachlorocyclopentadiene. |
| K034 | Hexachlorocyclopentadiene. |
| K035 | Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene. |
| K036 | Toluene, phosphorodithioic and phosphorothioic acid esters. |
| K037 | Toluene, phosphorodithioic and phosphorothioic acid esters. |
| K038 | Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters. |
| K039 | Phosphorodithioic and phosphorothioic acid esters. |
| K040 | Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters. |
| K041 | Toxaphene. |
| K042 | Hexachlorobenzene, ortho-dichlorobenzene. |
| K043 | 2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol. |
| K044 | N.A. |
| K045 | N.A. |
| K046 | Lead. |

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| K047 | N.A. |
| K048 | Hexavalent chromium, lead. |
| K049 | Hexavalent chromium, lead. |
| K050 | Hexavalent chromium. |
| K051 | Hexavalent chromium, lead. |
| K052 | Lead. |
| K060 | Cyanide, naphthalene, phenolic compounds, arsenic. |
| K061 | Hexavalent chromium, lead, cadmium. |
| K062 | Hexavalent chromium, lead. |
| K069 | Hexavalent chromium, lead, cadmium. |
| K071 | Mercury. |
| K073 | Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane. |
| K083 | Aniline, diphenylamine, nitrobenzene, phenylenediamine. |
| K084 | Arsenic. |
| K085 | Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride. |
| K086 | Lead, hexavalent chromium. |
| K087 | Phenol, naphthalene. |
| K088 | Cyanide (complexes). |
| K093 | Phthalic anhydride, maleic anhydride. |
| K094 | Phthalic anhydride. |
| K095 | 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane. |
| K096 | 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane. |
| K097 | Chlordane, heptachlor. |
| K098 | Toxaphene. |
| K099 | 2,4-dichlorophenol, 2,4,6-trichlorophenol. |
| K100 | Hexavalent chromium, lead, cadmium. |
| K101 | Arsenic. |
| K102 | Arsenic. |
| K103 | Aniline, nitrobenzene, phenylenediamine. |

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| K104 | Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine. |
| K105 | Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol. |
| K106 | Mercury. |
| K107 | 1,1-Dimethylhydrazine (UDMH). |
| K108 | 1,1-Dimethylhydrazine (UDMH). |
| K109 | 1,1-Dimethylhydrazine (UDMH). |
| K110 | 1,1-Dimethylhydrazine (UDMH). |
| K111 | 2,4-Dinitrotoluene. |
| K112 | 2,4-Toluenediamine, <i>o</i> -toluidine, <i>p</i> -toluidine, aniline. |
| K113 | 2,4-Toluenediamine, <i>o</i> -toluidine, <i>p</i> -toluidine, aniline. |
| K114 | 2,4-Toluenediamine, <i>o</i> -toluidine, <i>p</i> -toluidine. |
| K115 | 2,4-Toluenediamine. |
| K116 | Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene. |
| K117 | Ethylene dibromide. |
| K118 | Ethylene dibromide. |
| K123 | Ethylene thiourea. |
| K124 | Ethylene thiourea. |
| K125 | Ethylene thiourea. |
| K126 | Ethylene thiourea. |
| K131 | Dimethyl sulfate, methyl bromide. |
| K132 | Methyl bromide. |
| K136 | Ethylene dibromide. |
| K141 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. |
| K142 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. |
| K143 | Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene. |
| K144 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene. |
| K145 | Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene. |
| K147 | Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, |

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| | benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. |
| K148 | Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. |
| K149 | Benzotrichloride, benzyl chloride, chloroform, chloromethane, chlorobenzene, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, toluene. |
| K150 | Carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,2,4-trichlorobenzene. |
| K151 | Benzene, carbon tetrachloride, chloroform, hexachlorobenzene, pentachlorobenzene, toluene, 1,2,4,5-tetrachlorobenzene, tetrachloroethylene. |
| K156 | Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, triethylamine. |
| K157 | Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine. |
| K158 | Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride. |
| K159 | Benzene, butylate, eptc, molinate, pebulate, vernolate. |
| K161 | Antimony, arsenic, metam-sodium, ziram. |
| K169 | Benzene. |
| K170 | Benzo(a)pyrene, dibenz(a,h)anthracene, benzo (a) anthracene, benzo (b)fluoranthene, benzo(k)fluoranthene, 3-methylcholanthrene, 7, 12-dimethylbenz(a)anthracene. |
| K171 | Benzene, arsenic. |
| K172 | Benzene, arsenic. |
| K174 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD), 1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF), 1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,6,7,8,9-HpCDF), HxCDDs (All Hexachlorodibenzo-p-dioxins), HxCDFs (All Hexachlorodibenzofurans), PeCDDs (All Pentachlorodibenzo-p-dioxins), OCDD (1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, OCDF (1,2,3,4,6,7,8,9-Octachlorodibenzofuran), PeCDFs (All Pentachlorodibenzofurans), TCDDs (All tetrachlorodi-benzo-p-dioxins), TCDFs (All tetrachlorodibenzofurans). |
| K175 | Mercury |
| K176 | Arsenic, Lead. |
| K177 | Antimony. |
| K178 | Thallium. |

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| K181 | Aniline, o-anisidine, 4-chloroaniline, p-cresidine, 2,4-dimethylaniline, 1,2-phenylenediamine, 1,3-phenylenediamine. |
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FOOTNOTE: N.A. -- Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity, or reactivity.

§ 261 Appendix VIII — Hazardous Constituents

| Common name | Chemical abstracts name | Chemical abstracts No. | Hazardous waste No. |
|-----------------------|--|------------------------|---------------------|
| A2213 | Ethanimidothioic acid, 2-(dimethylamino) -N-hydroxy-2-oxo-, methyl ester | 30558-43-1 | U394 |
| Acetonitrile | Same | 75-05-8 | U003 |
| Acetophenone | Ethanone, 1-phenyl- | 98-86-2 | U004 |
| 2-Acetylaminefluarone | Acetamide, N-9H-fluoren-2-yl- | 53-96-3 | U005 |
| Acetyl chloride | Same | 75-36-5 | U006 |
| 1-Acetyl-2-thiourea | Acetamide, N-(aminothioxomethyl)- | 591-08-2 | P002 |
| Acrolein | 2-Propenal | 107-02-8 | P003 |
| Acrylamide | 2-Propenamide | 79-06-1 | U007 |
| Acrylonitrile | 2-Propenenitrile | 107-13-1 | U009 |
| Aflatoxins | Same | 1402-68-2 | |
| Aldicarb | Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime | 116-06-3 | P070 |
| Aldicarb sulfone | Propanal, 2-methyl-2- (methylsulfonyl) -, O-[(methylamino) carbonyl] oxime | 1646-88-4 | P203 |
| Aldrin | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)- | 309-00-2 | P004 |
| Allyl alcohol | 2-Propen-1-ol | 107-18-6 | P005 |
| Allyl chloride | 1-Propane, 3-chloro | 107-05-1 | |

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| Aluminum phosphide | Same | 20859-73-8 | P006 |
| 4-Aminobiphenyl | [1,1'-Biphenyl]-4-amine | 92-67-1 | |
| 5-(Aminomethyl)-3-isoxazolol | 3(2H)-Isoxazolone, 5-(aminomethyl)- | 2763-96-4 | P007 |
| 4-Aminopyridine | 4-Pyridinamine | 504-24-5 | P008 |
| Amitrole | 1H-1,2,4-Triazol-3-amine | 61-82-5 | U011 |
| Ammonium vanadate | Vanadic acid, ammonium salt | 7803-55-6 | P119 |
| Aniline | Benzenamine | 62-53-3 | U012 |
| o-Anisidine (2-methoxyaniline) | Benzenamine, 2-Methoxy- | 90-04-0 | |
| Antimony | Same | 7440-36-0 | |
| Antimony compounds, N.O.S. ¹ | | | |
| Aramite | Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester | 140-57-8 | |
| Arsenic | Same | 7440-38-2 | |
| Arsenic compounds, N.O.S. ¹ | | | |
| Arsenic acid | Arsenic acid H ₃ AsO ₄ | 7778-39-4 | P010 |
| Arsenic pentoxide | Arsenic oxide As ₂ O ₅ | 1303-28-2 | P011 |
| Arsenic trioxide | Arsenic oxide As ₂ O ₃ | 1327-53-3 | P012 |
| Auramine | Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl | 492-80-8 | U014 |
| Azaserine | L-Serine, diazoacetate (ester) | 115-02-6 | U015 |
| Barban | Carbamic acid, (3-chlorophenyl) -, 4-chloro-2-butynyl ester | 101-27-9 | U280 |
| Barium | Same | 7440-39-3 | |
| Barium compounds, N.O.S. ¹ | | | |

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| Barium cyanide | Same | 542-62-1 | P013 |
| Bendiocarb | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate | 22781-23-3 | U278 |
| Bendiocarb phenol | 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, | 22961-82-6 | U364 |
| Benomyl | Carbamic acid, [1- [(butylamino) carbonyl]- 1H-benzimidazol-2-yl] -, methyl ester | 17804-35-2 | U271 |
| Benz[c]acridine | Same | 225-51-4 | U016 |
| Benz[a]anthracene | Same | 56-55-3 | U018 |
| Benzal chloride | Benzene, (dichloromethyl)- | 98-87-3 | U017 |
| Benzene | Same | 71-43-2 | U019 |
| Benzenearsonic acid | Arsonic acid, phenyl- | 98-05-5 | |
| Benzidine | [1,1'-Biphenyl]-4,4'-diamine | 92-87-5 | U021 |
| Benzo[b]fluoranthene | Benz[e]acephenanthrylene | 205-99-2 | |
| Benzo[j]fluoranthene | Same | 205-82-3 | |
| Benzo(k)fluoranthene | Same | 207-08-9 | |
| Benzo[a]pyrene | Same | 50-32-8 | U022 |
| p-Benzoquinone | 2,5-Cyclohexadiene-1,4-dione | 106-51-4 | U197 |
| Benzotrichloride | Benzene, (trichloromethyl)- | 98-07-7 | U023 |
| Benzyl chloride | Benzene, (chloromethyl)- | 100-44-7 | P028 |
| Beryllium powder | Same | 7440-41-7 | P015 |
| Beryllium compounds, N.O.S. ¹ | | | |
| Bis(pentamethylene)-thiuram tetrasulfide | Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis- | 120-54-7 | |
| Bromoacetone | 2-Propanone, 1-bromo- | 598-31-2 | P017 |
| Bromoform | Methane, tribromo- | 75-25-2 | U225 |
| 4-Bromophenyl phenyl ether | Benzene, 1-bromo-4-phenoxy- | 101-55-3 | U030 |
| Brucine | Strychnidin-10-one, 2,3-dimethoxy- | 357-57-3 | P018 |
| Butyl benzyl phthalate | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester | 85-68-7 | |

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| Butylate | Carbamothioic acid, bis(2-methylpropyl)-, S-ethyl ester | 2008-41-5 | |
| Cacodylic acid | Arsinic acid, dimethyl- | 75-60-5 | U136 |
| Cadmium | Same | 7440-43-9 | |
| Cadmium compounds, N.O.S. ¹ | | | |
| Calcium chromate | Chromic acid H ₂ CrO ₄ , calcium salt | 13765-19-0 | U032 |
| Calcium cyanide | Calcium cyanide Ca(CN) ₂ | 592-01-8 | P021 |
| Carbaryl | 1-Naphthalenol, methylcarbamate | 63-25-2 | U279 |
| Carbendazim | Carbamic acid, 1H-benzimidazol-2-yl, methyl ester | 10605-21-7 | U372 |
| Carbofuran | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate | 1563-66-2 | P127 |
| Carbofuran phenol | 7-Benzofuranol, 2,3-dihydro-2,2-dimethyl- | 1563-38-8 | U367 |
| Carbon disulfide | Same | 75-15-0 | P022 |
| Carbon oxyfluoride | Carbonic difluoride | 353-50-4 | U033 |
| Carbon tetrachloride | Methane, tetrachloro- | 56-23-5 | U211 |
| Carbosulfan | Carbamic acid, [(dibutylamino) thio] methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester | 55285-14-8 | P189 |
| Chloral | Acetaldehyde, trichloro- | 75-87-6 | U034 |
| Chlorambucil | Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]- | 305-03-3 | U035 |
| Chlordane | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- | 57-74-9 | U036 |
| Chlordane (alpha and gamma isomers) | | | U036 |
| Chlorinated benzenes, N.O.S. ¹ | | | |
| Chlorinated ethane, N.O.S. ¹ | | | |
| Chlorinated fluorocarbons, N.O.S. ¹ | | | |
| Chlorinated naphthalene, | | | |

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| N.O.S. ¹ | | | |
| Chlorinated phenol, N.O.S. ¹ | | | |
| Chlornaphazin | Naphthalenamine, N,N'-bis(2-chloroethyl)- | 494-03-1 | U026 |
| Chloroacetaldehyde | Acetaldehyde, chloro- | 107-20-0 | P023 |
| Chloroalkyl ethers, N.O.S. ¹ | | | |
| p-Chloroaniline | Benzenamine, 4-chloro- | 106-47-8 | P024 |
| Chlorobenzene | Benzene, chloro- | 108-90-7 | U037 |
| Chlorobenzilate | Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester | 510-15-6 | U038 |
| p-Chloro-m-cresol | Phenol, 4-chloro-3-methyl- | 59-50-7 | U039 |
| 2-Chloroethyl vinyl ether | Ethene, (2-chloroethoxy)- | 110-75-8 | U042 |
| Chloroform | Methane, trichloro- | 67-66-3 | U044 |
| Chloromethyl methyl ether | Methane, chloromethoxy- | 107-30-2 | U046 |
| beta-Chloronaphthalene | Naphthalene, 2-chloro- | 91-58-7 | U047 |
| o-Chlorophenol | Phenol, 2-chloro- | 95-57-8 | U048 |
| 1-(o-Chlorophenyl)thiourea | Thiourea, (2-chlorophenyl)- | 5344-82-1 | P026 |
| Chloroprene | 1,3-Butadiene, 2-chloro- | 126-99-8 | |
| 3-Chloropropionitrile | Propanenitrile, 3-chloro- | 542-76-7 | P027 |
| Chromium | Same | 7440-47-3 | |
| Chromium compounds, N.O.S. ¹ | | | |
| Chrysene | Same | 218-01-9 | U050 |
| Citrus red No. 2 | 2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]- | 6358-53-8 | |
| Coal tar creosote | Same | 8007-45-2 | |
| Copper cyanide | Copper cyanide CuCN | 544-92-3 | P029 |
| Copper dimethyldithiocarbamate | Copper, bis(dimethylcarbamodithioato-S,S')-, | 137-29-1 | |
| Creosote | Same | | U051 |

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| p-Cresidine | 2-Methoxy-5-methylbenzenamine | 120-71-8 | |
| Cresol (Cresylic acid) | Phenol, methyl- | 1319-77-3 | U052 |
| Crotonaldehyde | 2-Butenal | 4170-30-3 | U053 |
| m-Cumenyl methylcarbamate | Phenol, 3-(methylethyl)-, methyl carbamate | 64-00-6 | P202 |
| Cyanides (soluble salts and complexes) N.O.S. ¹ | | | P030 |
| Cyanogen | Ethanedinitrile | 460-19-5 | P031 |
| Cyanogen bromide | Cyanogen bromide (CN)Br | 506-68-3 | U246 |
| Cyanogen chloride | Cyanogen chloride (CN)Cl | 506-77-4 | P033 |
| Cycasin | beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl | 14901-08-7 | |
| Cycloate | Carbamothioic acid, cyclohexylethyl-, S-ethyl ester | 1134-23-2 | |
| 2-Cyclohexyl-4,6-dinitrophenol | Phenol, 2-cyclohexyl-4,6-dinitro- | 131-89-5 | P034 |
| Cyclophosphamide | 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide | 50-18-0 | U058 |
| 2,4-D | Acetic acid, (2,4-dichlorophenoxy)- | 94-75-7 | U240 |
| 2,4-D, salts, esters | | | U240 |
| Daunomycin | 5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxohexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- | 20830-81-3 | U059 |
| Dazomet | 2H-1,3,5-thiadiazine-2-thione, tetrahydro-3,5-dimethyl | 533-74-4 | |
| DDD | Benzene, 1,1'-(2,2-dichloroethyldiene)bis[4-chloro- | 72-54-8 | U060 |
| DDE | Benzene, 1,1'-(dichloroethenyldiene)bis[4-chloro- | 72-55-9 | |
| DDT | Benzene, 1,1'-(2,2,2-trichloroethyldiene)bis[4-chloro- | 50-29-3 | U061 |
| Diallate | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester | 2303-16-4 | U062 |

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| Dibenz[a,h]acridine | Same | 226-36-8 | |
| Dibenz[a,j]acridine | Same | 224-42-0 | |
| Dibenz[a,h]anthracene | Same | 53-70-3 | U063 |
| 7H-Dibenzo[c,g]carbazole | Same | 194-59-2 | |
| Dibenzo[a,e]pyrene | Naphtho[1,2,3,4-def]chrysene | 192-65-4 | |
| Dibenzo[a,h]pyrene | Dibenzo[b,def]chrysene | 189-64-0 | |
| Dibenzo[a,i]pyrene | Benzo[rst]pentaphene | 189-55-9 | U064 |
| 1,2-Dibromo-3-chloropropane | Propane, 1,2-dibromo-3-chloro- | 96-12-8 | U066 |
| Dibutyl phthalate | 1,2-Benzenedicarboxylic acid, dibutyl ester | 84-74-2 | U069 |
| o-Dichlorobenzene | Benzene, 1,2-dichloro- | 95-50-1 | U070 |
| m-Dichlorobenzene | Benzene, 1,3-dichloro- | 541-73-1 | U071 |
| p-Dichlorobenzene | Benzene, 1,4-dichloro- | 106-46-7 | U072 |
| Dichlorobenzene, N.O.S. ¹ | Benzene, dichloro- | 25321-22-6 | |
| 3,3'-Dichlorobenzidine | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- | 91-94-1 | U073 |
| 1,4-Dichloro-2-butene | 2-Butene, 1,4-dichloro- | 764-41-0 | U074 |
| Dichlorodifluoromethane | Methane, dichlorodifluoro- | 75-71-8 | U075 |
| Dichloroethylene, N.O.S. ¹ | Dichloroethylene | 25323-30-2 | |
| 1,1-Dichloroethylene | Ethene, 1,1-dichloro- | 75-35-4 | U078 |
| 1,2-Dichloroethylene | Ethene, 1,2-dichloro-, (E)- | 156-60-5 | U079 |
| Dichloroethyl ether | Ethane, 1,1'-oxybis[2-chloro- | 111-44-4 | U025 |
| Dichloroisopropyl ether | Propane, 2,2'-oxybis[2-chloro- | 108-60-1 | U027 |
| Dichloromethoxy ethane | Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro- | 111-91-1 | U024 |
| Dichloromethyl ether | Methane, oxybis[chloro- | 542-88-1 | P016 |
| 2,4-Dichlorophenol | Phenol, 2,4-dichloro- | 120-83-2 | U081 |
| 2,6-Dichlorophenol | Phenol, 2,6-dichloro- | 87-65-0 | U082 |
| Dichlorophenylarsine | Arsonous dichloride, phenyl- | 696-28-6 | P036 |
| Dichloropropane, N.O.S. ¹ | Propane, dichloro- | 26638- | |

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| Dichloropropanol, N.O.S. ¹ | Propanol, dichloro- | 26545-73-3 | |
| Dichloropropene, N.O.S. ¹ | 1-Propene, dichloro- | 26952-23-8 | |
| 1,3-Dichloropropene | 1-Propene, 1,3-dichloro- | 542-75-6 | U084 |
| Dieldrin | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- | 60-57-1 | P037 |
| 1,2:3,4-Diepoxybutane | 2,2'-Bioxirane | 1464-53-5 | U085 |
| Diethylarsine | Arsine, diethyl- | 692-42-2 | P038 |
| Diethylene glycol, dicarbamate | Ethanol, 2,2'-oxybis-, dicarbamate | 5952-26-1 | U395 |
| 1,4-Diethyleneoxide | 1,4-Dioxane | 123-91-1 | U108 |
| Diethylhexyl phthalate | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester | 117-81-7 | U028 |
| N,N'-Diethylhydrazine | Hydrazine, 1,2-diethyl- | 1615-80-1 | U086 |
| O,O-Diethyl S-methyl dithiophosphate | Phosphorodithioic acid, O,O-diethyl S-methyl ester | 3288-58-2 | U087 |
| Diethyl-p-nitrophenyl phosphate | Phosphoric acid, diethyl 4-nitrophenyl ester | 311-45-5 | P041 |
| Diethyl phthalate | 1,2-Benzenedicarboxylic acid, diethyl ester | 84-66-2 | U088 |
| O,O-Diethyl O-pyrazinylphosphoro-thioate | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester | 297-97-2 | P040 |
| Diethylstilbesterol | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- | 56-53-1 | U089 |
| Dihydrosafrole | 1,3-Benzodioxole, 5-propyl- | 94-58-6 | U090 |
| Diisopropylfluorophosphate (DFP) | Phosphorofluoridic acid, bis(1-methylethyl) ester | 55-91-4 | P043 |
| Dimethoate | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester | 60-51-5 | P044 |

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| 3,3'-Dimethoxybenzidine | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy- | 119-90-4 | U091 |
| p-Dimethylaminoazobenzene | Benzenamine, N,N-dimethyl-4-(phenylazo)- | 60-11-7 | U093 |
| 2,4-Dimethylaniline (2,4-xylydine) | Benzenamine, 2,4-dimethyl- | 95-68-1 | |
| 7,12-Dimethylbenz[a]anthracene | Benz[a]anthracene, 7,12-dimethyl- | 57-97-6 | U094 |
| 3,3'-Dimethylbenzidine | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- | 119-93-7 | U095 |
| Dimethylcarbamoyl chloride | Carbamic chloride, dimethyl- | 79-44-7 | U097 |
| 1,1-Dimethylhydrazine | Hydrazine, 1,1-dimethyl- | 57-14-7 | U098 |
| 1,2-Dimethylhydrazine | Hydrazine, 1,2-dimethyl- | 540-73-8 | U099 |
| alpha,alpha-Dimethylphenethylamine | Benzenethanamine, alpha,alpha-dimethyl- | 122-09-8 | P046 |
| 2,4-Dimethylphenol | Phenol, 2,4-dimethyl- | 105-67-9 | U101 |
| Dimethyl phthalate | 1,2-Benzenedicarboxylic acid, dimethyl ester | 131-11-3 | U102 |
| Dimethyl sulfate | Sulfuric acid, dimethyl ester | 77-78-1 | U103 |
| Dimetilan | Carbamic acid, dimethyl-, 1-[(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester | 644-64-4 | P191 |
| Dinitrobenzene, N.O.S. ¹ | Benzene, dinitro- | 25154-54-5 | |
| 4,6-Dinitro-o-cresol | Phenol, 2-methyl-4,6-dinitro- | 534-52-1 | P047 |
| 4,6-Dinitro-o-cresol salts | | | P047 |
| 2,4-Dinitrophenol | Phenol, 2,4-dinitro- | 51-28-5 | P048 |
| 2,4-Dinitrotoluene | Benzene, 1-methyl-2,4-dinitro- | 121-14-2 | U105 |
| 2,6-Dinitrotoluene | Benzene, 2-methyl-1,3-dinitro- | 606-20-2 | U106 |
| Dinoseb | Phenol, 2-(1-methylpropyl)-4,6-dinitro- | 88-85-7 | P020 |
| Di-n-octyl phthalate | 1,2-Benzenedicarboxylic acid, dioctyl ester | 117-84-0 | U017 |
| Diphenylamine | Benzenamine, N-phenyl- | 122-39-4 | |
| 1,2-Diphenylhydrazine | Hydrazine, 1,2-diphenyl- | 122-66-7 | U109 |

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| Di-n-propylnitrosamine | 1-Propanamine, N-nitroso-N-propyl- | 621-64-7 | U111 |
| Disulfiram | Thioperoxydicarbonic diamide, tetraethyl | 97-77-8 | |
| Disulfoton | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester | 298-04-4 | P039 |
| Dithiobiuret | Thioimidodicarbonic diamide [(H ₂ N)C(S)] ₂ NH | 541-53-7 | P049 |
| Endosulfan | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide | 115-29-7 | P050 |
| Endothall | 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid | 145-73-3 | P088 |
| Endrin | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octa-hydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- | 72-20-8 | P051 |
| Endrin metabolites | | | P051 |
| Epichlorohydrin | Oxirane, (chloromethyl)- | 106-89-8 | U041 |
| Epinephrine | 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)- | 51-43-4 | P042 |
| EPTC | Carbamothioic acid, dipropyl-, S-ethyl ester | 759-94-4 | |
| Ethyl carbamate (urethane) | Carbamic acid, ethyl ester | 51-79-6 | U238 |
| Ethyl cyanide | Propanenitrile | 107-12-0 | P101 |
| Ethyl Ziram | Zinc, bis(diethylcarbamodithioato-S,S')- | 14324-55-1 | |
| Ethylenebisdithiocarbamic acid | Carbamodithioic acid, 1,2-ethanediylbis- | 111-54-6 | U114 |
| Ethylenebisdithiocarbamic acid, salts and esters | | | U114 |
| Ethylene dibromide | Ethane, 1,2-dibromo- | 106-93-4 | U067 |
| Ethylene dichloride | Ethane, 1,2-dichloro- | 107-06-2 | U077 |
| Ethylene glycol monoethyl ether | Ethanol, 2-ethoxy- | 110-80-5 | U359 |
| Ethyleneimine | Aziridine | 151-56-4 | P054 |
| Ethylene oxide | Oxirane | 75-21-8 | U115 |

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| Ethylenethiourea | 2-Imidazolidinethione | 96-45-7 | U116 |
| Ethylidene dichloride | Ethane, 1,1-dichloro- | 75-34-3 | U076 |
| Ethyl methacrylate | 2-Propenoic acid, 2-methyl-, ethyl ester | 97-63-2 | U118 |
| Ethyl methanesulfonate | Methanesulfonic acid, ethyl ester | 62-50-0 | U119 |
| Famphur | Phosphorothioic acid, O-[4- [(dimethylamino)sulfonyl]phenyl] O,O- dimethyl ester | 52-85-7 | P097 |
| Ferbam | Iron, tris(dimethylcarbamodithioato-S,S')- | 14484- 64-1 | |
| Fluoranthene | Same | 206-44-0 | U120 |
| Fluorine | Same | 7782-41- 4 | P056 |
| Fluoroacetamide | Acetamide, 2-fluoro- | 640-19-7 | P057 |
| Fluoroacetic acid, sodium salt | Acetic acid, fluoro-, sodium salt | 62-74-8 | P058 |
| Formaldehyde | Same | 50-00-0 | U122 |
| Formetanate hydrochloride | Methanimidamide, N,N-dimethyl-N'-[3- [(methylamino) carbonyl]oxy]phenyl]-, monohydrochloride | 23422- 53-9 | P198 |
| Formic acid | Same | 64-18-6 | U123 |
| Formparanate | Methanimidamide, N,N-dimethyl-N'-[2- methyl-4-[(methylamino) carbonyl]oxy]phenyl]- | 17702- 57-7 | P197 |
| Glycidylaldehyde | Oxiranecarboxyaldehyde | 765-34-4 | U126 |
| Halomethanes, N.O.S. ¹ | | | |
| Heptachlor | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8- heptachloro-3a,4,7,7a-tetrahydro- | 76-44-8 | P059 |
| Heptachlor epoxide | 2,5-Methano-2H-indeno[1,2- b]oxirene, 2,3,4,5,6,7,7-heptachloro- 1a,1b,5,5a,6,6a-hexa- hydro-, (1aalpha,1bbeta,2alpha,5alpha, 5abeta,6beta,6aalpha)- | 1024-57- 3 | |
| Heptachlor epoxide (alpha, beta, and gamma isomers) | | | |
| Heptachlorodibenzofurans | | | |
| Heptachlorodibenzo-p-dioxins | | | |

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| Hexachlorobenzene | Benzene, hexachloro- | 118-74-1 | U127 |
| Hexachlorobutadiene | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- | 87-68-3 | U128 |
| Hexachlorocyclopentadiene | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- | 77-47-4 | U130 |
| Hexachlorodibenzo-p-dioxins | | | |
| Hexachlorodibenzofurans | | | |
| Hexachloroethane | Ethane, hexachloro- | 67-72-1 | U131 |
| Hexachlorophene | Phenol, 2,2'-methylenebis[3,4,6-trichloro- | 70-30-4 | U132 |
| Hexachloropropene | 1-Propene, 1,1,2,3,3,3-hexachloro- | 1888-71-7 | U243 |
| Hexaethyl tetraphosphate | Tetraphosphoric acid, hexaethyl ester | 757-58-4 | P062 |
| Hydrazine | Same | 302-01-2 | U133 |
| Hydrogen cyanide | Hydrocyanic acid | 74-90-8 | P063 |
| Hydrogen fluoride | Hydrofluoric acid | 7664-39-3 | U134 |
| Hydrogen sulfide | Hydrogen sulfide H ₂ S | 7783-06-4 | U135 |
| Indeno[1,2,3-cd]pyrene | Same | 193-39-5 | U137 |
| 3-Iodo-2-propynyl n-butylcarbamate | Carbamic acid, butyl-, 3-iodo-2-propynyl ester | 55406-53-6 | |
| Isobutyl alcohol | 1-Propanol, 2-methyl- | 78-83-1 | U140 |
| Isodrin | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)- | 465-73-6 | P060 |
| Isolan | Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester | 119-38-0 | P192 |
| Isosafrole | 1,3-Benzodioxole, 5-(1-propenyl)- | 120-58-1 | U141 |
| Kepone | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- | 143-50-0 | U142 |
| Lasiocarpine | 2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl- | 303-34-4 | U143 |

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| | 1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]- | | |
| Lead | Same | 7439-92-1 | |
| Lead compounds, N.O.S. ¹ | | | |
| Lead acetate | Acetic acid, lead(2 +) salt | 301-04-2 | U144 |
| Lead phosphate | Phosphoric acid, lead(2 +) salt (2:3) | 7446-27-7 | U145 |
| Lead subacetate | Lead, bis(acetato-O)tetrahydroxytri- | 1335-32-6 | U146 |
| Lindane | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- | 58-89-9 | U129 |
| Maleic anhydride | 2,5-Furandione | 108-31-6 | U147 |
| Maleic hydrazide | 3,6-Pyridazinedione, 1,2-dihydro- | 123-33-1 | U148 |
| Malononitrile | Propanedinitrile | 109-77-3 | U149 |
| Manganese dimethyldithiocarbamate | Manganese, bis(dimethylcarbamo-dithioato-S,S')-, | 15339-36-3 | P196 |
| Melphalan | L-Phenylalanine, 4-[bis(2-chloroethyl)aminol]- | 148-82-3 | U150 |
| Mercury | Same | 7439-97-6 | U151 |
| Mercury compounds, N.O.S. ¹ | | | |
| Mercury fulminate | Fulminic acid, mercury(2 +) salt | 628-86-4 | P065 |
| Metam Sodium | Carbamodithioic acid, methyl-, monosodium salt | 137-42-8 | |
| Methacrylonitrile | 2-Propenenitrile, 2-methyl- | 126-98-7 | U152 |
| Methapyrilene | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- | 91-80-5 | U155 |
| Methiocarb | Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate | 2032-65-7 | P199 |
| Methomyl | Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester | 16752-77-5 | P066 |

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| Methoxychlor | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- | 72-43-5 | U247 |
| Methyl bromide | Methane, bromo- | 74-83-9 | U029 |
| Methyl chloride | Methane, chloro- | 74-87-3 | U045 |
| Methyl chlorocarbonate | Carbonochloridic acid, methyl ester | 79-22-1 | U156 |
| Methyl chloroform | Ethane, 1,1,1-trichloro- | 71-55-6 | U226 |
| 3-Methylcholanthrene | Benz[<i>j</i>]aceanthrylene, 1,2-dihydro-3-methyl- | 56-49-5 | U157 |
| 4,4'-Methylenebis(2-chloroaniline) | Benzenamine, 4,4'-methylenebis[2-chloro- | 101-14-4 | U158 |
| Methylene bromide | Methane, dibromo- | 74-95-3 | U068 |
| Methylene chloride | Methane, dichloro- | 75-09-2 | U080 |
| Methyl ethyl ketone (MEK) | 2-Butanone | 78-93-3 | U159 |
| Methyl ethyl ketone peroxide | 2-Butanone, peroxide | 1338-23-4 | U160 |
| Methyl hydrazine | Hydrazine, methyl- | 60-34-4 | P068 |
| Methyl iodide | Methane, iodo- | 74-88-4 | U138 |
| Methyl isocyanate | Methane, isocyanato- | 624-83-9 | P064 |
| 2-Methylactonitrile | Propanenitrile, 2-hydroxy-2-methyl- | 75-86-5 | P069 |
| Methyl methacrylate | 2-Propenoic acid, 2-methyl-, methyl ester | 80-62-6 | U162 |
| Methyl methanesulfonate | Methanesulfonic acid, methyl ester | 66-27-3 | |
| Methyl parathion | Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester | 298-00-0 | P071 |
| Methylthiouracil | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- | 56-04-2 | U164 |
| Metolcarb | Carbamic acid, methyl-, 3-methylphenyl ester | 1129-41-5 | P190 |
| Mexacarbate | Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester) | 315-18-4 | P128 |
| Mitomycin C | Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5- | 50-07-7 | U010 |

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| | methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]-. | | |
| MNNG | Guanidine, N-methyl-N'-nitro-N-nitroso- | 70-25-7 | U163 |
| Molinate | 1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester | 2212-67-1 | |
| Mustard gas | Ethane, 1,1'-thiobis[2-chloro- | 505-60-2 | |
| Naphthalene | Same | 91-20-3 | U165 |
| 1,4-Naphthoquinone | 1,4-Naphthalenedione | 130-15-4 | U166 |
| alpha-Naphthylamine | 1-Naphthalenamine | 134-32-7 | U167 |
| beta-Naphthylamine | 2-Naphthalenamine | 91-59-8 | U168 |
| alpha-Naphthylthiourea | Thiourea, 1-naphthalenyl- | 86-88-4 | P072 |
| Nickel | Same | 7440-02-0 | |
| Nickel compounds, N.O.S. ¹ | | | |
| Nickel carbonyl | Nickel carbonyl Ni(CO) ₄ , (T-4)- | 13463-39-3 | P073 |
| Nickel cyanide | Nickel cyanide Ni(CN) ₂ | 557-19-7 | P074 |
| Nicotine | Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- | 54-11-5 | P075 |
| Nicotine salts | | | P075 |
| Nitric oxide | Nitrogen oxide NO | 10102-43-9 | P076 |
| p-Nitroaniline | Benzenamine, 4-nitro- | 100-01-6 | P077 |
| Nitrobenzene | Benzene, nitro- | 98-95-3 | U169 |
| Nitrogen dioxide | Nitrogen oxide NO ₂ | 10102-44-0 | P078 |
| Nitrogen mustard | Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl- | 51-75-2 | |
| Nitrogen mustard, hydrochloride salt | | | |
| Nitrogen mustard N-oxide | Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide | 126-85-2 | |
| Nitrogen mustard, N-oxide, hydro- chloride salt | | | |

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| Nitroglycerin | 1,2,3-Propanetriol, trinitrate | 55-63-0 | P081 |
| p-Nitrophenol | Phenol, 4-nitro- | 100-02-7 | U170 |
| 2-Nitropropane | Propane, 2-nitro- | 79-46-9 | U171 |
| Nitrosamines, N.O.S. ¹ | | 35576-91-1 | |
| N-Nitrosodi-n-butylamine | 1-Butanamine, N-butyl-N-nitroso- | 924-16-3 | U172 |
| N-Nitrosodiethanolamine | Ethanol, 2,2'-(nitrosoimino)bis- | 1116-54-7 | U173 |
| N-Nitrosodiethylamine | Ethanamine, N-ethyl-N-nitroso- | 55-18-5 | U174 |
| N-Nitrosodimethylamine | Methanamine, N-methyl-N-nitroso- | 62-75-9 | P082 |
| N-Nitroso-N-ethylurea | Urea, N-ethyl-N-nitroso- | 759-73-9 | U176 |
| N-Nitrosomethylethylamine | Ethanamine, N-methyl-N-nitroso- | 10595-95-6 | |
| N-Nitroso-N-methylurea | Urea, N-methyl-N-nitroso- | 684-93-5 | U177 |
| N-Nitroso-N-methylurethane | Carbamic acid, methylnitroso-, ethyl ester | 615-53-2 | U178 |
| N-Nitrosomethylvinylamine | Vinylamine, N-methyl-N-nitroso- | 4549-40-0 | P084 |
| N-Nitrosomorpholine | Morpholine, 4-nitroso- | 59-89-2 | |
| N-Nitrosonornicotine | Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- | 16543-55-8 | |
| N-Nitrosopiperidine | Piperidine, 1-nitroso- | 100-75-4 | U179 |
| N-Nitrosopyrrolidine | Pyrrolidine, 1-nitroso- | 930-55-2 | U180 |
| N-Nitrososarcosine | Glycine, N-methyl-N-nitroso- | 13256-22-9 | |
| 5-Nitro-o-toluidine | Benzenamine, 2-methyl-5-nitro- | 99-55-8 | U181 |
| Octachlorodibenzo-p-dioxin (OCDD) | 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin | 3268-87-9 | |
| Octachlorodibenzofuran (OCDF) | 1,2,3,4,6,7,8,9-Octachlorodibenofuran | 39001-02-0 | |
| Octamethylpyrophosphoramide | Diphosphoramide, octamethyl- | 152-16-9 | P085 |
| Osmium tetroxide | Osmium oxide OsO ₄ , (T-4)- | 20816-12-0 | P087 |
| Oxamyl | Ethanimidothioc acid, 2- | 23135- | P194 |

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| | (dimethylamino)-N- [[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester | 22-0 | |
| Paraldehyde | 1,3,5-Trioxane, 2,4,6-trimethyl- | 123-63-7 | U182 |
| Parathion | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester | 56-38-2 | P089 |
| Pebulate | Carbamothioic acid, butylethyl-, S-propyl ester | 1114-71-2 | |
| Pentachlorobenzene | Benzene, pentachloro- | 608-93-5 | U183 |
| Pentachlorodibenzo-p-dioxins | | | |
| Pentachlorodibenzofurans | | | |
| Pentachloroethane | Ethane, pentachloro- | 76-01-7 | U184 |
| Pentachloronitrobenzene (PCNB) | Benzene, pentachloronitro- | 82-68-8 | U185 |
| Pentachlorophenol | Phenol, pentachloro- | 87-86-5 | See F027 |
| Phenacetin | Acetamide, N-(4-ethoxyphenyl)- | 62-44-2 | U187 |
| Phenol | Same | 108-95-2 | U188 |
| 1,2-Phenylenediamine | 1,2-Benzenediamine | 95-54-5 | |
| 1,3-Phenylenediamine | 1,3-Benzenediamine | 108-45-2 | |
| Phenylenediamine | Benzenediamine | 25265-76-3 | |
| Phenylmercury acetate | Mercury, (acetato-O)phenyl- | 62-38-4 | P092 |
| Phenylthiourea | Thiourea, phenyl- | 103-85-5 | P093 |
| Phosgene | Carbonic dichloride | 75-44-5 | P095 |
| Phosphine | Same | 7803-51-2 | P096 |
| Phorate | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester | 298-02-2 | P094 |
| Phthalic acid esters, N.O.S. ¹ | | | |
| Phthalic anhydride | 1,3-Isobenzofurandione | 85-44-9 | U190 |
| Physostigmine | Pyrrolo[2,3-b]indol-5-01, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)- | 57-47-6 | P204 |

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| Physostigmine salicylate | Benzoic acid, 2-hydroxy-, compd. with (3a <i>S</i> -cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3- <i>b</i>]indol-5-yl methylcarbamate ester (1:1) | 57-64-7 | P188 |
| 2-Picoline | Pyridine, 2-methyl- | 109-06-8 | U191 |
| Polychlorinated biphenyls, N.O.S. ¹ | | | |
| Potassium cyanide | Potassium cyanide K(CN) | 151-50-8 | P098 |
| Potassium dimethyldithiocarbamate | Carbamodithioic acid, dimethyl, potassium salt | 128-03-0 | |
| Potassium n-hydroxymethyl-n-methyl-dithiocarbamate | Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt | 51026-28-9 | |
| Potassium n-methyldithiocarbamate | Carbamodithioic acid, methyl-monopotassium salt | 137-41-7 | |
| Potassium pentachlorophenate | Pentachlorophenol, potassium salt | 7778736 | None |
| Potassium silver cyanide | Argentate(1-), bis(cyano-C)-, potassium | 506-61-6 | P099 |
| Promecarb | Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate | 2631-37-0 | P201 |
| Pronamide | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- | 23950-58-5 | U192 |
| 1,3-Propane sultone | 1,2-Oxathiolane, 2,2-dioxide | 1120-71-4 | U193 |
| n-Propylamine | 1-Propanamine | 107-10-8 | U194 |
| Propargyl alcohol | 2-Propyn-1-ol | 107-19-7 | P102 |
| Propham | Carbamic acid, phenyl-, 1-methylethyl ester | 122-42-9 | U373 |
| Propoxur | Phenol, 2-(1-methylethoxy)-, methylcarbamate | 114-26-1 | U411 |
| Propylene dichloride | Propane, 1,2-dichloro- | 78-87-5 | U083 |
| 1,2-Propylenimine | Aziridine, 2-methyl- | 75-55-8 | P067 |
| Propylthiouracil | 4(1 <i>H</i>)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo- | 51-52-5 | |
| Prosulfocarb | Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester | 52888-80-9 | U387 |

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| Pyridine | Same | 110-86-1 | U196 |
| Reserpine | Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-smethyl ester, (3beta,16beta,17alpha,18beta,20alpha)- | 50-55-5 | U200 |
| Resorcinol | 1,3-Benzenediol | 108-46-3 | U201 |
| Safrole | 1,3-Benzodioxole, 5-(2-propenyl)- | 94-59-7 | U203 |
| Selenium | Same | 7782-49-2 | |
| Selenium compounds, N.O.S. ¹ | | | |
| Selenium dioxide | Selenious acid | 7783-00-8 | U204 |
| Selenium sulfide | Selenium sulfide SeS ₂ | 7488-56-4 | U205 |
| Selenium, tetrakis(dimethyl-dithiocarbamate) | Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid | 144-34-3 | |
| Selenourea | Same | 630-10-4 | P103 |
| Silver | Same | 7440-22-4 | |
| Silver compounds, N.O.S. ¹ | | | |
| Silver cyanide | Silver cyanide Ag(CN) | 506-64-9 | P104 |
| Silvex (2,4,5-TP) | Propanoic acid, 2-(2,4,5-trichlorophenoxy)- | 93-72-1 | See F027 |
| Sodium cyanide | Sodium cyanide Na(CN) | 143-33-9 | P106 |
| Sodium dibutyldithiocarbamate | Carbamodithioic acid, dibutyl, sodium salt | 136-30-1 | |
| Sodium diethyldithiocarbamate | Carbamodithioic acid, diethyl-, sodium salt | 148-18-5 | |
| Sodium dimethyldithiocarbamate | Carbamodithioic acid, dimethyl-, sodium salt | 128-04-1 | |
| Sodium pentachlorophenate | Pentachlorophenol, sodium salt | 131522 | None |
| Streptozotocin | D-Glucose, 2-deoxy-2-[[[(methylnitrosoamino)carbonyl]amino]- | 18883-66-4 | U206 |
| Strychnine | Strychnidin-10-one | 57-24-9 | P108 |

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| Strychnine salts | | | P108 |
| Sulfallate | Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester | 95-06-7 | |
| TCDD | Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro- | 1746-01-6 | |
| Tetrabutylthiuram disulfide | Thioperoxydicarbonic diamide, tetrabutyl | 1634-02-2 | |
| 1,2,4,5-Tetrachlorobenzene | Benzene, 1,2,4,5-tetrachloro- | 95-94-3 | U207 |
| Tetrachlorodibenzo-p-dioxins | | | |
| Tetrachlorodibenzofurans | | | |
| Tetrachloroethane, N.O.S. ¹ | Ethane, tetrachloro-, N.O.S. | 25322-20-7 | |
| 1,1,1,2-Tetrachloroethane | Ethane, 1,1,1,2-tetrachloro- | 630-20-6 | U208 |
| 1,1,2,2-Tetrachloroethane | Ethane, 1,1,2,2-tetrachloro- | 79-34-5 | U209 |
| Tetrachloroethylene | Ethene, tetrachloro- | 127-18-4 | U210 |
| 2,3,4,6-Tetrachlorophenol | Phenol, 2,3,4,6-tetrachloro- | 58-90-2 | See F027 |
| 2,3,4,6-tetrachlorophenol, potassium salt | same | 53535276 | None |
| 2,3,4,6-tetrachlorophenol, sodium salt | same | 25567559 | None |
| Tetraethyldithiopyrophosphate | Thiodiphosphoric acid, tetraethyl ester | 3689-24-5 | P109 |
| Tetraethyl lead | Plumbane, tetraethyl- | 78-00-2 | P110 |
| Tetraethyl pyrophosphate | Diphosphoric acid, tetraethyl ester | 107-49-3 | P111 |
| Tetramethylthiuram monosulfide | Bis(dimethylthiocarbamoyl) sulfide | 97-74-5 | |
| Tetranitromethane | Methane, tetranitro- | 509-14-8 | P112 |
| Thallium | Same | 7440-28-0 | |
| Thallium compounds, N.O.S. ¹ | | | |
| Thallic oxide | Thallium oxide $Tl_2 O_3$ | 1314-32-5 | P113 |
| Thallium(I) acetate | Acetic acid, thallium(1 +) salt | 563-68-8 | U214 |

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| Thallium(I) carbonate | Carbonic acid, dithallium(1 +) salt | 6533-73-9 | U215 |
| Thallium(I) chloride | Thallium chloride TlCl | 7791-12-0 | U216 |
| Thallium(I) nitrate | Nitric acid, thallium(1 +) salt | 10102-45-1 | U217 |
| Thallium selenite | Selenious acid, dithallium(1 +) salt | 12039-52-0 | P114 |
| Thallium(I) sulfate | Sulfuric acid, dithallium(1 +) salt | 7446-18-6 | P115 |
| Thioacetamide | Ethanethioamide | 62-55-5 | U218 |
| Thiodicarb | Ethanimidothioic acid, N,N'-[thiobis [(methylimino) carbonyloxy]] bis-, dimethyl ester | 59669-26-0 | U410 |
| Thiofanox | 2-Butanone, 3,3-dimethyl-1-(methylthio)-, 0-[(methylamino)carbonyl] oxime | 39196-18-4 | P045 |
| Thiomethanol | Methanethiol | 74-93-1 | U153 |
| Thiophanate-methyl | Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)] bis-, dimethyl ester | 23564-05-8 | U409 |
| Thiophenol | Benzenethiol | 108-98-5 | P014 |
| Thiosemicarbazide | Hydrazinecarbothioamide | 79-19-6 | P116 |
| Thiourea | Same | 62-56-6 | U219 |
| Thiram | Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl- | 137-26-8 | U244 |
| Tirpate | 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime | 26419-73-8 | P185 |
| Toluene | Benzene, methyl- | 108-88-3 | U220 |
| Toluenediamine | Benzenediamine, ar-methyl- | 25376-45-8 | U221 |
| Toluene-2,4-diamine | 1,3-Benzenediamine, 4-methyl- | 95-80-7 | |
| Toluene-2,6-diamine | 1,3-Benzenediamine, 2-methyl- | 823-40-5 | |
| Toluene-3,4-diamine | 1,2-Benzenediamine, 4-methyl- | 496-72-0 | |
| Toluene diisocyanate | Benzene, 1,3-diisocyanatomethyl- | 26471-62-5 | U223 |

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| o-Toluidine | Benzenamine, 2-methyl- | 95-53-4 | U328 |
| o-Toluidine hydrochloride | Benzenamine, 2-methyl-, hydrochloride | 636-21-5 | U222 |
| p-Toluidine | Benzenamine, 4-methyl- | 106-49-0 | U353 |
| Toxaphene | Same | 8001-35-2 | P123 |
| Triallate | Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester | 2303-17-5 | U389 |
| 1,2,4-Trichlorobenzene | Benzene, 1,2,4-trichloro- | 120-82-1 | |
| 1,1,2-Trichloroethane | Ethane, 1,1,2-trichloro- | 79-00-5 | U227 |
| Trichloroethylene | Ethene, trichloro- | 79-01-6 | U228 |
| Trichloromethanethiol | Methanethiol, trichloro- | 75-70-7 | P118 |
| Trichloromonofluoromethane | Methane, trichlorofluoro- | 75-69-4 | U121 |
| 2,4,5-Trichlorophenol | Phenol, 2,4,5-trichloro- | 95-95-4 | See F027 |
| 2,4,6-Trichlorophenol | Phenol, 2,4,6-trichloro- | 88-06-2 | See F027 |
| 2,4,5-T | Acetic acid, (2,4,5-trichlorophenoxy)- | 93-76-5 | See F027 |
| Trichloropropane, N.O.S. ¹ | | 25735-29-9 | |
| 1,2,3-Trichloropropane | Propane, 1,2,3-trichloro- | 96-18-4 | |
| Triethylamine | Ethanamine, N,N-diethyl- | 121-44-8 | U404 |
| O,O,O-Triethyl phosphorothioate | Phosphorothioic acid, O,O,O-triethyl ester | 126-68-1 | |
| 1,3,5-Trinitrobenzene | Benzene, 1,3,5-trinitro- | 99-35-4 | U234 |
| Tris(1-aziridiny)phosphine sulfide | Aziridine, 1,1',1''-phosphinothioylidynetris- | 52-24-4 | |
| Tris(2,3-dibromopropyl) phosphate | 1-Propanol, 2,3-dibromo-, phosphate (3:1) | 126-72-7 | U235 |
| Trypan blue | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)]-bis[5-amino-4-hydroxy-, tetrasodium salt. | 72-57-1 | U236 |
| Uracil mustard | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]- | 66-75-1 | U237 |
| Vanadium pentoxide | Vanadium oxide V ₂ O ₅ | 1314-62- | P120 |

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| Vernolate | Carbamothioic acid, dipropyl-,S-propyl ester | 1929-77-7 | |
| Vinyl chloride | Ethene, chloro- | 75-01-4 | U043 |
| Warfarin | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3% | 81-81-2 | U248 |
| Warfarin | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3% | 81-81-2 | P001 |
| Warfarin salts, when present at concentrations less than 0.3% | | | U248 |
| Warfarin salts, when present at concentrations greater than 0.3% | | | P001 |
| Zinc cyanide | Zinc cyanide $\text{Zn}(\text{CN})_2$ | 557-21-1 | P121 |
| Zinc phosphide | Zinc phosphide Zn_3P_2 , when present at concentrations greater than 10% | 1314-84-7 | P122 |
| Zinc phosphide | Zinc phosphide Zn_3P_2 , when present at concentrations of 10% or less | 1314-84-7 | U249 |
| Ziram | ZInc, bis(dimethylcarbamodithioato-S,S')-, (T-4)- | 137-30-4 | P205 |

FOOTNOTE: ¹The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix

Section 261

Appendix IX — Wastes Excluded Under §§ 260.20 and 260.22

Table 1 — Wastes Excluded From Non-Specific Sources

Facility

Division of Environmental Quality.

Vertac Superfund site, Jacksonville, Arkansas.

Kiln ash, cyclone ash, and calcium chloride salts from incineration of residues (EPA Hazardous Waste No. F020 and F023) generated from the primary production of 2,4,5-T and 2,4-D after August 24, 1990. This one-time exclusion applies only to the incineration of the waste materials

described in the petition, and it is conditional upon the data obtained from DEQ's full-scale incineration facility. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, DEQ must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid:

(1) Testing: Sample collection and analyses (including quality control (QC) procedures) according to appropriate methods. As applicable to the method-defined parameters of concern, analyses requiring the use of SW-846 methods incorporated by reference in 40 CFR 260.11 must be used without substitution. As applicable, the SW-846 methods might include Methods 0010, 0011, 0020, 0023A, 0030, 0031, 0040, 0050, 0051, 0060, 0061, 1010A, 1020B, 1110A, 1310B, 1311, 1312, 1320, 1330A, 9010C, 9012B, 9040C, 9045D, 9060A, 9070A (uses EPA Method 1664, Rev. A), 9071B, and 9095B.

(A) Initial testing: Representative grab samples must be taken from each drum and kiln ash and cyclone ash generated from each 24 hours of operation, and the grab samples composited to form one composite sample of ash for each 24-hour period. Representative grab samples must also be taken from each drum of calcium chloride salts generated from each 24 hours of operation and composited to form one composite sample of calcium chloride salts for each 24-hour period. The initial testing requirements must be fulfilled for the following wastes: (i) incineration by-products generated prior to and during the incinerator's trial burn; (ii) incineration by-products from the treatment of 2,4-D wastes for one week (or 7 days if incineration is not on consecutive days) after completion of the trial burn; (iii) incineration by-products from the treatment of blended 2,4-D and 2,4,5-T wastes for two weeks (or 14 days if incineration is not on consecutive days) after completion of the trial burn; and (iv) incineration by-products from the treatment of blended 2,4-D and 2,4,5-T wastes for one week (or 7 days if incineration is not on consecutive days) when the percentage of 2, 4, 5-T wastes exceeds the maximum percentage treated under Condition (1)(A)(iii). Prior to disposal of the residues from each 24-hour sampling period, the daily composite must be analyzed for all the constituents listed in Condition (3). DEQ must report the analytical test data, including quality control information, obtained during this initial period no later than 90 days after the start of the operation.

(B) Subsequent testing: Representative grab samples of each drum of kiln and cyclone ash generated from each week of operation must be composited to form one composite sample of ash for each weekly period. Representative grab samples of each drum of calcium chloride salts generated from each week of operation must also be composited to form one composite sample of calcium chloride salts for each weekly period.

Prior to disposal of the residues from each weekly sampling period, the weekly composites must be analyzed for all of the constituents listed in Condition (3). The analytical data, including quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA.

(2) Waste holding: The incineration residues that are generated must be stored as hazardous until the initial verification analyses or subsequent analyses are completed.

If the composite incineration residue samples (from either Condition (1)(A) or Condition (1)(B)) do not exceed any of the delisting levels set in Condition (3), the incineration residues

corresponding to these samples may be managed and disposed of in accordance with all applicable solid waste rules.

If any composite incineration residue sample exceeds any of the delisting levels set in Condition (3), the incineration residues generated during the time period corresponding to this sample must be retreated until they meet these levels (analyses must be repeated) or managed and disposed of in accordance with subtitle C of RCRA. Incineration residues which are generated but for which analysis is not complete or valid must be managed and disposed of in accordance with subtitle C of RCRA, until valid analyses demonstrate that the wastes meet the delisting levels.

(3) Delisting levels: If concentrations in one or more of the incineration residues for any of the hazardous constituents listed below exceed their respective maximum allowable concentrations also listed below, the batch of failing waste must either be re-treated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA.

treated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA.

(A) Inorganics (Leachable): Arsenic, 0.32 ppm; Barium, 6.3 ppm; Cadmium, 0.06 ppm; Chromium, 0.32 ppm; Cyanide, 4.4 ppm; Lead, 0.32 ppm; Mercury, 0.01 ppm; Nickel, 4.4 ppm; Selenium, 0.06 ppm; Silver, 0.32 ppm. Metal concentrations must be measured in the waste leachate as per 40 CFR 261.24. Cyanide extractions must be conducted using distilled water.

(B) Organics: Benzene, 0.87 ppm; Benzo(a)anthracene, 0.10 ppm; Benzo(a)pyrene, 0.04 ppm; Benzo (b)fluoranthene, 0.16 ppm; Chlorobenzene, 152 ppm; o-Chlorophenol, 44 ppm; Chrysene, 15 ppm; 2, 4-D, 107 ppm; DDE, 1.0 ppm; Dibenz(a,h)anthracene, 0.007 ppm; 1, 4-Dichlorobenzene, 265 ppm; 1, 1-Dichlorethylene, 1.3 ppm; trans-1,2 Dichloroethylene, 37 ppm; Dichloromethane, 0.23 ppm; 2,4-Dichlorophenol, 43 ppm; Hexachlorobenzene, 0.26 ppm; Indeno (1,2,3-cd) pyrene, 30 ppm; Polychlorinated biphenyls, 12 ppm; 2,4,5-T, 1×10^6 ppm; 1,2,4,5-Tetrachlorobenzene, 56 ppm; Tetrachloroethylene, 3.4 ppm; Trichloroethylene, 1.1 ppm; 2,4,5-Trichlorophenol, 21,000 ppm; 2,4,6-Trichlorophenol, 0.35 ppm.

(C) Chlorinated dioxins and furans: 2,3,7,8-Tetrachlorodibenzo-p-dioxin equivalents: 4×10^{-7} ppm.

The petitioned by-product must be analyzed for the tetra-, penta-, hexa-, and heptachlorodibenzo-p-dioxins, and the tetra-, penta-, hexa-, and heptachlorodibenzofurans to determine the 2, 3, 7, 8-tetra- chlorodibenzo-p-dioxin equivalent concentration. The analysis must be conducted using a measurement system that achieves practical quantitation limits of 15 parts per trillion (ppt) for the tetra- and penta-homologs, and 37 ppt for the hexa- and hepta-homologs.

(4) Termination of testing: Due to the possible variability of the incinerator feeds, the testing requirements of Condition (1)(B) will continue indefinitely.

(5) Data submittals: Within one week of system start-up. DEQ must notify the Section Chief, Variances Section (see address below) when the full-scale incineration system is on-line and waste treatment has begun. The data obtained through Condition (1)(A) must be submitted to the Section Chief, Variances Section, PSPD/OSW (OS-343), U.S. EPA, 401 M Street SW., Washington, DC 20460, within the time period specified. At the Section Chief's request, DEQ must submit analytical data obtained through Condition (1)(B) within the time

period specified by the Section Chief. Failure to submit the required data obtained from Condition (1)(A) within the specified time period or to maintain the required records for the time specified in Condition (1)(B) (or to submit data within the time specified by the Section Chief) will be considered by the Agency, at its discretion, sufficient basis to revoke DEQ's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement:

"Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 1001 and 42 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."

Chamberlain-Featherlite, Inc.
Hot Springs, AR

Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after July 16, 1986.

Kawneer Company, Incorporated.
Springdale, Arkansas

Wastewater treatment filter press sludge (EPA Hazardous Waste No. F019) generated (at a maximum annual rate of 26 cubic yards) from the chemical conversion coating of aluminum. This exclusion was published on November 13, 1990. *Kawneer must analyze a representative sample, obtained by a full depth core sample from each 55 gallon drum of filter press sludge generated, prior to disposal of the wastes as nonhazardous. Each lot of filter press sludge wastes shipped for disposal shall be analyzed. Samples from each drum may be composited for each lot of filter press sludge to be disposed of. Analysis shall be conducted for total cyanide and chromium (VI). Provided that total cyanide concentration in the waste is less than 0.7 ug/kg and chromium (VI) is less than 0.5 ug/kg, the wastes may be disposed of as nonhazardous under the provisions of this delisting exclusion.*

Monroe Auto Equipment.
Paragould, AR

Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after vacuum filtration after November 27, 1985. This exclusion does not apply to the sludge contained in the on-site impoundment.

**U.S. EPA Combustion Research Facility.
Jefferson, Arkansas**

One-time exclusion for scrubber water (EPA Hazardous Waste No. F020) generated in 1985 from the incineration of Vertac still bottoms. This exclusion was published on June 28, 1989.

**Waterloo Industries.
Pocahontas, AR**

Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after dewatering and held on-site on July 17, 1986 and any such sludge generated (after dewatering) after July 17, 1986.

**Bekaert Steel Corporation
Rogers, Arkansas**

Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations (at a maximum annual rate of 1250 cubic yards to be measured on a calendar year basis) after February 28, 1997. In order to confirm that the characteristics of the waste do not change significantly, the facility must, on an annual basis, before July 1 of each year, analyze a representative composite sample for the constituents listed in §261.24 as well as antimony, copper, nickel, and zinc using the method specified therein. The annual analytical results, including quality control information, must be compiled, certified according to § 260.22(i)(12) of this rule, maintained on site for a minimum of five years, and made available for inspection upon request of any employee or representative of EPA or the State of Arkansas. Failure to maintain the required documents on site will be considered by the Division and/or EPA, at their discretion, sufficient basis to revoke this exclusion to the extent directed.

**Tenneco Automotive.
Paragould, AR**

Stabilized sludge from electroplating operations, excavated from the Finch Road Landfill and currently stored in containment cells by Tenneco (EPA Hazardous Waste Nos. F006). This is a one-time exclusion for 1,800 cubic yards of stabilized sludge when it is disposed of in a Subtitle D landfill. This exclusion was published on August 9, 2001.

(1) Reopener Language:

(A) If, anytime after disposal of the delisted waste, Tenneco possesses or is otherwise made aware of any environmental data (including but not limited to leachate data or groundwater monitoring data) or any other data relevant to the delisted waste indicating that any constituent identified for the delisting verification testing is at level higher than the delisting level allowed by the Director or his delegate in granting the petition, then the facility must report the data, in writing, to the Director or his delegate within 10 days of first possessing or being made aware of that data.

(B) If Tenneco fails to submit the information described in (2)(A) or if any other information is received from any source, the Director or his delegate will make a

preliminary determination as to whether the reported information requires Division action to protect human health or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment.

(C) If the Director or his delegate determines the reported information does require Division action, the Director or his delegate will notify the facility in writing of the actions the Director or his delegate believes are necessary to protect human health and the environment. The notice shall include a statement of the proposed action and a statement providing the facility with an opportunity to present information as to why the proposed Division action is not necessary. The facility shall have 10 days from the date of the Director or his delegate's notice to present such information.

(D) Following the receipt of information from the facility described in (1)(C) or (if no information is presented under (1)(C)) the initial receipt of information described in (1)(A), the Director or his delegate will issue a final written determination describing the Division actions that are necessary to protect human health or the environment. Any required action described in the Director or his delegate's determination shall become effective immediately, unless the Director or his delegate provides otherwise.

(2) Notification Requirements: Tenneco must do the following before transporting the delisted waste off-site: Failure to provide this notification will result in a violation of the delisting petition and revocation of the exclusion.

(A) Provide a one-time written notification to any State Regulatory Agency to which or through which they will transport the delisted waste described above for disposal, 60 days before beginning such activities.

(B) Update the one-time written notification if Tenneco ships the delisted waste to a different disposal facility.

Tokusen, USA Inc Conway, AR

Wastewater Treatment Sludge (EPA Hazardous Waste No. F006) generated at a maximum annual rate of 2,000 cubic yards per calendar year after [*Insert date of Commission adoption of this revision*] to be disposed of in a Subtitle D landfill. For the exclusion to be valid, Tokusen must implement a verification testing program that meets the following paragraphs:

(1) Delisting Levels: All leachable concentrations for those constituents must not exceed the following levels (mg/L for TCLP).

(A) Inorganic Constituents; Antimony - 0.4; Arsenic - 1.59; Barium - 100; Chromium - 5.0; Cobalt - 0.8; Copper - 91.3; Lead - 2.32; Nickel - 50.5; Selenium - 1.0; Zinc - 748.

(B) Organic Constituents: Acetone - 1950.

(2) Waste Management:

(A) Tokusen must manage as hazardous all WWTP sludge generated, until it has completed initial verification testing described in paragraph (3)(A) and (B), as appropriate, and valid analyses show that paragraph (1) is satisfied and approval is received by EPA.

(B) Levels of constituents measured in the samples of the WWTP sludge that do not

exceed the levels set forth in paragraph (1) are non-hazardous. Tokusen can manage and dispose of the non-hazardous WWTP sludge according to all applicable solid waste rules.

(C) If constituent levels in a sample exceed any of the Delisting Levels set in paragraph (1), Tokusen can collect one additional sample and perform expedited analyses to verify if the constituent exceeds the delisting level. If this sample confirms the exceedance, Tokusen must, from that point forward, treat all the waste covered by this exclusion as hazardous until it is demonstrated that the waste again meets the levels in paragraph (1). Tokusen must manage and dispose of the waste generated under Subtitle C of RCRA when it becomes aware of any exceedance.

(D) Upon completion of the verification testing described in paragraph 3(A) and (B) as appropriate and the transmittal of the results to EPA, and if the testing results meet the requirements of paragraph (1), Tokusen may proceed to manage its WWTP sludge as non-hazardous waste. If subsequent verification testing indicates an exceedance of the Delisting Levels in paragraph (1), Tokusen must manage the WWTP sludge as a hazardous waste after it has received approval from EPA as described in paragraph (2)(C).

(3) Verification Testing Requirements: Tokusen must perform sample collection and analyses, including quality control procedures, using appropriate methods. As applicable to the method-defined parameters of concern, analyses requiring the use of SW-846 methods incorporated by reference in Section 260.11 of this Rule must be used without substitution. As applicable, the SW-846 methods might include Methods 8260B, 1311/8260B, 8270C, 6010B, 7470, 9034A, ASTM-D-4982B, ASTM-D-5049, E413.2. Methods must meet Performance Based Measurement System Criteria in which The Data Quality Objectives are to demonstrate that representative samples of sludge meet the delisting levels in paragraph (1). If EPA judges the process to be effective under the operating conditions used during the initial verification testing, Tokusen may replace the testing required in paragraph (3)(A) with the testing required in paragraph (3)(B). Tokusen must continue to test as specified in paragraph (3)(A) until and unless notified by EPA in writing that testing in paragraph (3)(A) may be replaced by paragraph (3)(B).

(A) Initial Verification Testing: After EPA grants the final exclusion, Tokusen must do the following:

(i) The first sampling event for eight (8) samples will be performed within thirty (30) days of operation after this exclusion becomes final.

(ii) The samples are to be analyzed and compared against the Delisting Levels in paragraph (1).

(iii) Within sixty (60) days after this exclusion becomes final, Tokusen will report initial verification analytical test data for the WWTP sludge, including analytical quality control information. Tokusen must request in writing that EPA allows Tokusen to substitute the Testing conditions in (3)(B) for (3)(A).

(B) Subsequent Verification Testing: Following written notification by EPA, Tokusen may substitute the testing conditions in (3)(B) for (3)(A). Tokusen must continue to monitor operating conditions, and analyze two representative samples of the wastewater treatment sludge for each quarter of operation during the first year of waste generation. If levels of constituents measured in the samples of the WWTP sludge do not exceed the levels set forth in paragraph (1) in two consecutive quarters,

Tokusen can manage and dispose of the WWTP sludge according to all applicable solid waste rules. After the first year of sampling events, one (1) verification sampling test can be performed on two (2) annual samples of the waste treatment sludge. The results are to be compared to the Delisting Levels in paragraph (1).

(C) Termination of Testing:

(i) After the first year of quarterly testings, if the Delisting Levels in paragraph (1) are met, Tokusen may then request that EPA does not require a quarterly testing.

(ii) Following termination of the quarterly testing, Tokusen must conduct one (1) sampling event on two (2) representative samples for all constituents listed in paragraph (1) annually.

(4) Changes in Operating Conditions: If Tokusen significantly changes the process described in its petition or starts any processes that generate(s) the waste that may or could significantly affect the composition or type of waste generated as established under paragraph (1) (by illustration, but not limitation, changes in equipment or operating conditions of the treatment process), it must notify EPA and DEQ in writing; it may no longer handle the wastes generated from the new process as non-hazardous until the wastes meet the delisting levels set in paragraph (1) and it has received written approval to do so from EPA and DEQ.

(5) Data Submittals: Tokusen must submit the information described below. If Tokusen fails to submit the required data within the specified time or maintain the required records on-site for the specified time, EPA, at its discretion, will consider this sufficient basis to re-open the exclusion as described in paragraph (6). Tokusen must:

(A) Submit the data obtained through paragraph (3) to the Division Director, Enforcement and Compliance Assurance Division, EPA Region 6, 1201 Elm Street, Dallas, Texas 75270, Mail Code, (6ECD) within the time specified.

(B) Compile records of operating conditions and analytical data from paragraph (3), summarized, and maintained on-site for a minimum of five years.

(C) Furnish these records and data when EPA or the State of Arkansas requests them for inspection.

(D) Send along with all data a signed copy of the following certification statement, to attest to the truth and accuracy of the data submitted: Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 001 and 42 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete.

As to the (those) identified section(s) of this document for which I can not personally verify its (their) truth and accuracy I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. If any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.

(6) Re-Opener:

(A) If, any time after disposal of the delisted waste, Tokusen possesses or is otherwise made aware of any environmental data (including but not limited to leachate data or groundwater monitoring data) or any other data relevant to the delisted waste indicating that any constituent identified for the delisting verification testing is at level higher than the delisting level allowed by the Division Director in granting the petition, then the facility must report the data, in writing, to the Division Director and DEQ within 10 days of first possessing or being made aware of that data.

(B) If the annual testing of the waste does not meet the delisting requirements in paragraph (1), Tokusen must report the data in writing to the Division Director within 10 days of first possessing or being made aware of that data.

(C) If Tokusen fails to submit the information described in paragraphs (5), (6)(A) or (6)(B) or if any other information is received from any source, the Division Director will make a preliminary determination as to whether the reported information requires EPA action to protect human health and/or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment.

(D) If the Division Director determines that the reported information does require action, EPA's Division Director will notify the facility in writing of the actions the Division Director believes are necessary to protect human health and the environment. The notice shall include a statement of the proposed action and a statement providing the facility with an opportunity to present information as to why the proposed action by EPA is not necessary. The facility shall have 10 days from the date of the Division Director's notice to present such information. (E) Following the receipt of information from the facility described in paragraph (6)(D) or (if) no information is presented under paragraph (6)(D)) the initial receipt of information described in paragraphs (5), (6)(A) or (6)(B), the Division Director will issue a final written determination describing EPA's actions that are necessary to protect human health and/or the environment. Any required action described in the Division Director's determination shall become effective immediately, unless the Division Director provides otherwise.

(7) Notification Requirements: Tokusen must do the following before transporting the delisted waste. Failure to provide this notification will result in a violation of the delisting petition and a possible revocation of the decision.

(A) Provide a one-time written notification to any state Regulatory Agency to which or through which it will transport the delisted waste described above for disposal, 60 days before beginning such activities.

(B) Update one-time written notification, if it ships the delisted waste into a different disposal facility.

(C) Failure to provide this notification will result in a violation of the delisting variance and a possible revocation of the decision.

Section 262.

STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

Subsection A — General

§262.1 Terms used in this part

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§262.11 Hazardous waste determination and recordkeeping.

§262.12 [Reserved]

§262.13 Generator category determination

§262.14 Conditions for exemption for a very small quantity generator

§262.15 Satellite accumulation area rules for small and large quantity generators

§262.16 Conditions for exemption for a small quantity generator that accumulates hazardous waste

§262.17 Conditions for exemption for a large quantity generator that accumulates hazardous waste

§262.18 EPA identification numbers and re-notification for small quantity generators and large quantity generators

§262.139 State Requirements for Very Small Quantity Generators, Small Quantity Generators, and Large Quantity Generators

Subsection B — The Manifest

§262.20 General requirements.

§262.21 Manifest tracking numbers, manifest printing, and obtaining manifests.

§262.22 Number of copies.

§262.23 Use of the manifest.

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§262.26 Additional Requirements for Generators of Hazardous Waste in Arkansas (Including Wastes from Generators of over 100kgs per month).

§262.27 Waste Minimization certification.

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§262.30 Packaging.

§262.31 Labeling.

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§262.33 Placarding.

§262.34 [Reserved]

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§262.36 Handling and Disposal Requirements for Very Small Quantity Generators.

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§262.40 Recordkeeping.

§262.41 Annual report.

§262.42 Exception reporting.

§262.43 Additional reporting.

§262.44 Special requirements for generators of between 100 and 1000 kg/mo.

Subsection E — [Reserved]

§262.50 [Reserved]
§262.51 [Reserved]
§262.52 [Reserved]
§262.53 [Reserved]
§262.54 [Reserved]
§262.55 [Reserved]
§262.56 [Reserved]
§262.57 [Reserved]
§262.58 [Reserved]

Subsection F [Reserved]

§262.60 [Reserved]

Subsection G — Farmers

§262.70 Farmers.

Subsection H – Transboundary Movements of Hazardous Waste for Recovery and Disposal

§262.80 Applicability.
§262.81 Definitions.
§262.82 General conditions.
§262.83 Exports of hazardous waste
§262.84 Imports of hazardous waste
§262.85 [Reserved]
§262.86 [Reserved]
§262.87 [Reserved]
§262.88 [Reserved]
§262.89 [Reserved]

Subsections I-J [Reserved]

Subsection K—Alternative Requirements for Hazardous Waste Determination and Accumulation of Unwanted Material for Laboratories Owned by Eligible Academic Entities

§262.200 Definitions for this subpart.
§262.201 Applicability of this subpart.
§262.202 This Subsection is optional.
§262.203 How an eligible academic entity indicates it will be subject to the requirements of this subpart.
§262.204 How an eligible academic entity indicates it will withdraw from the requirements of this subpart.
§262.205 Summary of the requirements of this subpart.
§262.206 Labeling and management standards for containers of unwanted material in the laboratory.
§262.207 Training.

- §262.208 Removing containers of unwanted material from the laboratory.
- §262.209 Where and when to make the hazardous waste determination and where to send containers of unwanted material upon removal from the laboratory.
- §262.210 Making the hazardous waste determination in the laboratory before the unwanted material is removed from the laboratory.
- §262.211 Making the hazardous waste determination at an on-site central accumulation area.
- §262.212 Making the hazardous waste determination at an on-site interim status or permitted treatment, storage or disposal facility.
- §262.213 Laboratory clean-outs.
- §262.214 Laboratory management plan.
- §262.215 Unwanted material that is not solid or hazardous waste.
- §262.216 Non-laboratory hazardous waste generated at an eligible academic entity.

Subsection L — Alternative Standards For Episodic Generation

- §262.230 Applicability
- §262.231 Definitions of this subsection
- §262.232 Conditions for a generator managing hazardous waste from an episodic event
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Subsection M — Preparedness, Prevention, and Emergency Procedures for Large Quantity Generators

- §262.250 Applicability
- §262.251 Maintenance and operation of facility
- §262.252 Required equipment
- §262.253 Testing and maintenance of equipment
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- §262.260 Purpose and implementation of contingency plan
- §262.261 Content of contingency plan
- §262.262 Copies of contingency plan
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Appendix I to Section 262 — [Reserved]

Subsection A -- General

§ 262.1 Terms used in this section

As used in this section:

“**Condition for exemption**” to mean: any requirement in §§ 262.14, 262.15, 262.16, 262.17, 262.70, or subsection K or subsection L of this section that states an event, action, or standard that must occur or be met in order to obtain an exemption from any applicable requirement in 40

CFR Part 124 and sections 264 through 268, and 270 of this rule, or from any requirement for notification under section 3010 of RCRA.

“Independent requirement” to mean: a requirement of section 262 that states an event, action, or standard that must occur or be met; and that applies without relation to, or irrespective of, the purpose of obtaining a conditional exemption from storage facility permit, interim status, and operating requirements under §§ 262.14, 262.15, 262.16, 262.17, or subsection K or subsection L of this section.

§ 262.10 Purpose, scope, and applicability

(a) These rules in this section establish standards for generators of hazardous waste as defined by 260.10 of this rule.

(1) A person who generates a hazardous waste as defined by section 261 of this rule is subject to all the applicable independent requirements in the sections and subsections listed below:

(i) Independent requirements of a very small quantity generator.

(A) Section 262.11(a) through (d) Hazardous waste determination and recordkeeping; and

(B) Section 262.13 Generator category determination.

(ii) Independent requirements of a small quantity generator.

(A) Section 262.11 Hazardous waste determination and recordkeeping;

(B) Section 262.13 Generator category determination;

(C) Section 262.18 EPA identification numbers and re-notification for small quantity generators and large quantity generators;

(D) Section 262 subsection B—Manifest requirements applicable to small and large quantity generators;

(E) Section 262 subsection C—Pre-transport requirements applicable to small and large quantity generators;

(F) Section 262.40 Recordkeeping;

(G) Section 262.44 Recordkeeping for small quantity generators; and

(H) Section 262 subsection H—Transboundary movements of hazardous waste for recovery or disposal.

(iii) Independent requirements of a large quantity generator.

(A) Section 262.11 Hazardous waste determination and recordkeeping;

(B) Section 262.13 Generator category determination;

(C) Section 262.18 EPA identification numbers and re-notification for small quantity generators and large quantity generators;

(D) Section 262 subsection B—Manifest requirements applicable to small and large quantity generators;

(E) Section 262 subsection C—Pre-transport requirements applicable to small and large quantity generators;

(F) Section 262 subsection D—Recordkeeping and reporting applicable to small and large quantity generators, except § 262.44; and

(G) Section 262 subsection H—Transboundary movements of hazardous waste for recovery or disposal.

(2) A generator that accumulates hazardous waste on site is a person that stores hazardous waste; such generator is subject to the applicable requirements of 40 CFR Part

124, and APC&EC Rule No. 23 sections 264 through 267, and 270 of this rule and section 3010 of RCRA, unless it is one of the following:

- (i) A very small quantity generator that meets the conditions for exemption in § 262.14;
- (ii) A small quantity generator that meets the conditions for exemption in §§ 262.15 and 262.16; or
- (iii) A large quantity generator that meets the conditions for exemption in §§ 262.15 and 262.17.

(3) A generator shall not transport, offer its hazardous waste for transport, or otherwise cause its hazardous waste to be sent to a facility that is not a designated facility, as defined in § 260.10 of this chapter, or not otherwise authorized to receive the generator's hazardous waste.

(b) Determining generator category. A generator must use § 262.13 to determine which provisions of this part are applicable to the generator based on the quantity of hazardous waste generated per calendar month.

(c) A generator who treats, stores, or disposes of hazardous waste on-site must only comply with the following sections of this section with respect to that waste: Section 262.11 for determining whether or not he has a hazardous waste, § 262.12 for obtaining an EPA identification number, § 262.34 for accumulation of hazardous waste, § 262.40 (c) and (d) for recordkeeping, § 262.43 for additional reporting, and if applicable, § 262.70 for farmers.

(d) Any person who exports or imports hazardous wastes must comply with § 262.18 and subsection H of this section.

(e) Any person who imports hazardous waste into the United States and/or the State of Arkansas must comply with the standards applicable to generators established in this section.

(f) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of § 262.70 is not required to comply with other standards in this section or §§ 270, 264, 265, 267, or 268 with respect to such pesticides.

(g) A person who generates a hazardous waste as defined by § 261 is subject to the compliance requirements and penalties prescribed in section 3008 of RCRA and § 8-7-204 of the Arkansas Hazardous Waste Management Act if he does not comply with the requirements of this section.

(1) A generator's violation of an independent requirement is subject to penalty and injunctive relief under APC&EC Rule No. 8.

(2) A generator's noncompliance with a condition for exemption in this section is not subject to penalty or injunctive relief under APC&EC Rule No. 8 as a violation of section 262 condition for exemption. Noncompliance by any generator with an applicable condition for exemption from storage permit and operations requirements means that the facility is a storage facility operating without an exemption from the permit, interim status, and operations requirements in 40 CFR Part 124, and sections 264 through 267, and 270 of this rule, and the notification requirements of section 3010 of RCRA. Without an exemption, any violations of such storage requirements are subject to penalty and injunctive relief under APC&EC Rule No. 8.

(h) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility must comply with the generator standards established in this section.

(i) Persons responding to an explosives or munitions emergency in accordance with §§ 264.1(g)(8)(i)(D) or (iv) or 265.1(c)(11)(i)(D) or (iv), and 270.1(c)(3)(i)(D) or (iii) are not required to comply with the standards of this Section.

(j) Reserved

(k) Reserved

(l) The laboratories owned by an eligible academic entity that chooses to be subject to the requirements of Subsection K of this Section are not subject to (for purposes of this paragraph, the terms “laboratory” and “eligible academic entity” shall have the meaning as defined in § 262.200):

(1) The independent requirements of § 262.11 or the rules in § 262.15 for large quantity generators and small quantity generators, except as provided in subsection K, and

(2) The conditions of § 262.14, for very small quantity generators, except as provided in subsection K.

Note 1: The provisions of § 262.34 are applicable to the on-site accumulation of hazardous waste by generators. Therefore, the provisions of § 262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

Note 2: A generator who treats, stores, or disposes of hazardous waste on-site must comply with the applicable standards and permit requirements set forth in §§ 264, 265, 266, and 270.

§ 262.11 Hazardous waste determination and recordkeeping

A person who generates a solid waste, as defined in § 261.2, must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA rules. A hazardous waste determination is made using the following steps:

(a) The hazardous waste determination for each solid waste must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the RCRA classification of the waste may change.

(b) A person must determine whether the solid waste is excluded from regulation under § 261.4 of this rule.

Note: Even if the waste is listed, the generator still has an opportunity under § 260.22 to demonstrate to the Director and the EPA Administrator that the waste from his particular facility or operation is not a hazardous waste.

(c) If the waste is not excluded under § 261.4, the person must then use knowledge of the waste to determine whether the waste meets any of the listing descriptions under subsection D of section 261. Acceptable knowledge that may be used in making an accurate determination as to whether the waste is listed may include waste origin, composition, the process producing the waste, feedstock, and other reliable and relevant information. If the waste is listed, the person may file a delisting petition under § 260.20 and § 260.22 to demonstrate to the Director that the waste from this particular site or operation is not a hazardous waste.

(d) The person then must also determine whether the waste exhibits one or more hazardous characteristics as identified in subsection C of section 261 by following the procedures in

paragraph (d)(1) or (2) of this section, or a combination of both.

(1) The person must apply knowledge of the hazard characteristic of the waste in light of the materials or the processes used to generate the waste. Acceptable knowledge may include process knowledge (e.g., information about chemical feedstocks and other inputs to the production process); knowledge of products, by-products, and intermediates produced by the manufacturing process; chemical or physical characterization of wastes; information on the chemical and physical properties of the chemicals used or produced by the process or otherwise contained in the waste; testing that illustrates the properties of the waste; or other reliable and relevant information about the properties of the waste or its constituents. A test other than a test method set forth in subsection C of section 261, or an equivalent test method approved by the Director under § 260.21, may be used as part of a person's knowledge to determine whether a solid waste exhibits a characteristic of hazardous waste. However, such tests do not, by themselves, provide definitive results. Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at § 260.10.

(2) When available knowledge is inadequate to make an accurate determination, the person must test the waste according to the applicable methods set forth in subsection C of section 261 or according to an equivalent method approved by the Director under § 260.21 and in accordance with the following:

(i) Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at § 260.10.

(ii) Where a test method is specified in subsection C of section 261, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste.

(e) If the waste is determined to be hazardous, the generator must refer to sections 261, 264, 265, 266, 267, 268, and 273 of this rule for other possible exclusions or restrictions pertaining to management of the specific waste.

(f) Recordkeeping for *very small*, small, and large quantity generators. A *very small*, small, or large quantity generator must maintain records supporting its hazardous waste determinations, including records that identify whether a solid waste is a hazardous waste, as defined by § 261.3. Records must be maintained for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal. These records must comprise the generator's knowledge of the waste and support the generator's determination, as described at paragraphs (c) and (d) of this section. The records must include, but are not limited to, the following types of information: the results of any tests, sampling, waste analyses, or other determinations made in accordance with this section; records documenting the tests, sampling, and analytical methods used to demonstrate the validity and relevance of such tests; records consulted in order to determine the process by which the waste was generated, the composition of the waste, and the properties of the waste; and records which explain the knowledge basis for the generator's determination, as described at paragraph (d)(1) of this section. The periods of record retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Director.

(g) Identifying hazardous waste numbers for small and large quantity generators. If the waste is determined to be hazardous, small quantity generators and large quantity generators must identify all applicable EPA hazardous waste numbers (EPA hazardous waste codes) in subsections C and D of section 261 of this chapter. Prior to shipping the waste off site, the generator also must mark its

containers with all applicable EPA hazardous waste numbers (EPA hazardous waste codes) according to § 262.32.

§ 262.12 [Reserved]

§ 262.13 Generator category determination

A generator must determine its generator category. A generator's category is based on the amount of hazardous waste generated each month and may change from month to month. This section sets forth procedures to determine whether a generator is a very small quantity generator, a small quantity generator, or a large quantity generator for a particular month, as defined in §260.10 of this chapter.

(a) Generators of either acute hazardous waste or non-acute hazardous waste. A generator who either generates acute hazardous waste or non-acute hazardous waste in a calendar month shall determine its generator category for that month by doing the following:

- (1) Counting the total amount of hazardous waste generated in the calendar month;
- (2) Subtracting from the total any amounts of waste exempt from counting as described in paragraphs (c) and (d) of this section; and
- (3) Determining the resulting generator category for the hazardous waste generated using Table 1 of this section.

(b) Generators of both acute and non-acute hazardous wastes. A generator who generates both acute hazardous waste and non-acute hazardous waste in the same calendar month shall determine its generator category for that month by doing the following:

- (1) Counting separately the total amount of acute hazardous waste and the total amount of non-acute hazardous waste generated in the calendar month;
- (2) Subtracting from each total any amounts of waste exempt from counting as described in paragraphs (c) and (d) of this section;
- (3) Determining separately the resulting generator categories for the quantities of acute and non-acute hazardous waste generated using Table 1 of this section; and
- (4) Comparing the resulting generator categories from paragraph (b)(3) of this section and applying the more stringent generator category to the accumulation and management of both non-acute hazardous waste and acute hazardous waste generated for that month.

TABLE 1 TO §262.13—GENERATOR CATEGORIES BASED ON QUANTITY OF WASTE GENERATED IN A CALENDAR MONTH

| Quantity of acute hazardous waste generated in a calendar month | Quantity of non-acute hazardous waste generated in a calendar month | Quantity of residues from a cleanup of acute hazardous waste generated in a calendar month | Generator category |
|--|--|---|---------------------------|
| > 1 kg | Any amount | Any amount | Large quantity generator. |
| Any amount | ≥ 1,000 kg | Any amount | Large quantity generator. |
| Any amount | Any amount | > 100 kg | Large quantity |

| | | | |
|--------|-------------------------|----------|--------------------------------|
| | | | generator. |
| ≤ 1 kg | > 100 kg and < 1,000 kg | ≤ 100 kg | Small quantity generator. |
| ≤ 1 kg | ≤ 100 kg | ≤ 100 kg | Very small quantity generator. |

(c) When making the monthly quantity-based determinations required by this part, the generator must include all hazardous waste that it generates, except hazardous waste that:

(1) Is exempt from regulation under § 261.4(c) through (f), § 261.6(a)(3), § 261.7(a)(1), or § 261.8;

(2) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities as defined in § 260.10;

(3) Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under § 261.6(c)(2);

(4) Is used oil managed under the requirements of § 261.6(a)(4) and section 279;

(5) Is spent lead-acid batteries managed under the requirements of section 266 subsection G;

(6) Is universal waste managed under § 261.9 and section 273;

(7) Is a hazardous waste that is an unused commercial chemical product (listed in section 261 subsection D or exhibiting one or more characteristics in section 261 subsection C) that is generated solely as a result of a laboratory clean-out conducted at an eligible academic entity pursuant to § 262.213. For purposes of this provision, the term eligible academic entity shall have the meaning as defined in §262.200; or

(8) Is managed as part of an episodic event in compliance with the conditions of subsection L of this part.

(d) In determining the quantity of hazardous waste generated in a calendar month, a generator need not include:

(1) Hazardous waste when it is removed from on-site accumulation, so long as the hazardous waste was previously counted once;

(2) Hazardous waste generated by on-site treatment (including reclamation) of the generator's hazardous waste, so long as the hazardous waste that is treated was previously counted once; and

(3) Hazardous waste spent materials that are generated, reclaimed, and subsequently reused on site, so long as such spent materials have been previously counted once.

(e) Based on the generator category as determined under this section, the generator must meet the applicable independent requirements listed in §262.10. A generator's category also determines which of the provisions of §§262.14, 262.15, 262.16 or 262.17 must be met to obtain an exemption from the storage facility permit, interim status, and operating requirements when accumulating hazardous waste.

(f) Mixing hazardous wastes with solid wastes—(1) Very small quantity generator wastes.

(i) Hazardous wastes generated by a very small quantity generator may be mixed with solid wastes. Very small quantity generators may mix a portion or all of its hazardous waste with solid waste and remain subject to §262.14 even though the

resultant mixture exceeds the quantity limits identified in the definition of very small quantity generator at §260.10 of this chapter, unless the mixture exhibits one or more of the characteristics of hazardous waste identified in section 261 subsection C of this chapter.

(ii) If the resulting mixture exhibits a characteristic of hazardous waste, this resultant mixture is a newly-generated hazardous waste. The very small quantity generator must count both the resultant mixture amount plus the other hazardous waste generated in the calendar month to determine whether the total quantity exceeds the very small quantity generator calendar month quantity limits identified in the definition of generator categories found in §260.10 of this chapter. If so, to remain exempt from the permitting, interim status, and operating standards, the very small quantity generator must meet the conditions for exemption applicable to either a small quantity generator or a large quantity generator. The very small quantity generator must also comply with the applicable independent requirements for either a small quantity generator or a large quantity generator.

(iii) If a very small quantity generator's wastes are mixed with used oil, the mixture is subject to section 279. Any material produced from such a mixture by processing, blending, or other treatment is also regulated under section 279.

(2) Small quantity generator and large quantity generator wastes.

(i) Hazardous wastes generated by a small quantity generator or large quantity generator may be mixed with solid waste. These mixtures are subject to the following: the mixture rule in §§261.3(a)(2)(iv), (b)(2) and (3), and (g)(2)(i); the prohibition of dilution rule at §268.3(a); the land disposal restriction requirements of §268.40 if a characteristic hazardous waste is mixed with a solid waste so that it no longer exhibits the hazardous characteristic; and the hazardous waste determination requirement at §262.11.

(ii) If the resulting mixture is found to be a hazardous waste, this resultant mixture is a newly-generated hazardous waste. A small quantity generator must count both the resultant mixture amount plus the other hazardous waste generated in the calendar month to determine whether the total quantity exceeds the small quantity generator calendar monthly quantity limits identified in the definition of generator categories found in §260.10 of this chapter. If so, to remain exempt from the permitting, interim status, and operating standards, the small quantity generator must meet the conditions for exemption applicable to a large quantity generator. The small quantity generator must also comply with the applicable independent requirements for a large quantity generator.

§262.14 Conditions for exemption for a very small quantity generator

(a) Provided that the very small quantity generator meets all the conditions for exemption listed in this section, hazardous waste generated by the very small quantity generator is not subject to the requirements of 40 CFR part 124, and sections 262 (except §§262.10-262.14) through 268, and 270 of this rule, and the notification requirements of section 3010 of RCRA and the very small quantity generator may accumulate hazardous waste on site without complying with such requirements. The conditions for exemption are as follows:

(1) In a calendar month the very small quantity generator generates less than or equal to the amounts specified in the definition of “very small quantity generator” in §260.10 of this chapter;

(2) The very small quantity generator complies with §262.11(a) through (d);

(3) If the very small quantity generator accumulates at any time greater than 1 kilogram (2.2 lbs) of acute hazardous waste or 100 kilograms (220 lbs) of any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste listed in §§261.31 or 261.33(e) of this chapter, all quantities of that acute hazardous waste are subject to the following additional conditions for exemption:

(i) Such waste is held on site for no more than 90 days beginning on the date when the accumulated wastes exceed the amounts provided above; and

(ii) The conditions for exemption in §262.17(a) through (g).

(4) If the very small quantity generator accumulates at any time 1,000 kilograms (2,200 lbs) or greater of non-acute hazardous waste, all quantities of that hazardous waste are subject to the following additional conditions for exemption:

(i) Such waste is held on site for no more than 180 days, or 270 days, if applicable, beginning on the date when the accumulated waste exceed the amounts provided above;

(ii) The quantity of waste accumulated on site never exceeds 6,000 kilograms (13,200 lbs); and

(iii) The conditions for exemption in §262.16(b)(2) through (f).

(5) A very small quantity generator that accumulates hazardous waste in amounts less than or equal to the limits in paragraphs (a)(3) and (4) of this section must either treat or dispose of its hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage, or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under section 270 of this rule;

(ii) In interim status under sections 265 and 270 of this rule;

(iii) Authorized to manage hazardous waste by a state with a hazardous waste management program approved under section 271 of this rule;

(iv) Permitted, licensed, or registered by a state to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to 40 CFR part 258 and APC&EC Rule No. 22;

(v) Permitted, licensed, or registered by a state to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit, is subject to the requirements in 40 CFR parts 257.5 through 257.30 and APC&EC Regulation No. 22;

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation;

(vii) For universal waste managed under section 273 of this rule, a universal waste handler or destination facility subject to the requirements of section 273 of this rule;

(viii) A large quantity generator under the control of the same person as the very small quantity generator, provided the following conditions are met:

(A) The very small quantity generator and the large quantity generator are under the control of the same person as defined in §260.10 of this chapter. “Control,” for the purposes of this section, means the power to direct the policies of the generator, whether by the ownership of stock, voting rights, or otherwise, except that contractors who operate generator facilities on behalf of a different person as defined in §260.10 of this chapter shall not be deemed to “control” such generators.

(B) The very small quantity generator marks its container(s) of hazardous waste with:

(1) The words “Hazardous Waste” and

(2) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

(b) The placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(c) A very small quantity generator experiencing an episodic event may generate and accumulate hazardous waste in accordance with subsection L of this section in lieu of §§262.15, 262.16, and 262.17.

§262.15 Satellite accumulation area rules for small and large quantity generators

(a) A generator may accumulate as much as 55 gallons of non-acute hazardous waste and/or either one quart of liquid acute hazardous waste listed in §261.31 or §261.33(e) of this chapter or 1 kg (2.2 lbs) of solid acute hazardous waste listed in §261.31 or §261.33(e) of this chapter in containers at or near any point of generation where wastes initially accumulate which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with the requirements of 40 CFR part 124, and sections 264 through 267, and 270 of this rule, provided that all of the conditions for exemption in this section are met. A generator may comply with the conditions for exemption in this section instead of complying with the conditions for exemption in §262.16(b) or §262.17(a), except as required in §262.15(a)(7) and (8). The conditions for exemption for satellite accumulation are:

(1) If a container holding hazardous waste is not in good condition, or if it begins to leak, the generator must immediately transfer the hazardous waste from this container to a container that is in good condition and does not leak, or immediately transfer and manage the waste in a central accumulation area operated in compliance with §262.16(b) or §262.17(a).

(2) The generator must use a container made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be accumulated, so that the ability of the container to contain the waste is not impaired.

(3) Special standards for incompatible wastes.

- (i) Incompatible wastes, or incompatible wastes and materials, (see appendix V of section 265 for examples) must not be placed in the same container, unless §265.17(b) of this chapter is complied with.
 - (ii) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see appendix V of section 265 for examples), unless §265.17(b) of this chapter is complied with.
 - (iii) A container holding a hazardous waste that is incompatible with any waste or other materials accumulated nearby in other containers must be separated from the other materials or protected from them by any practical means.
- (4) A container holding hazardous waste must be closed at all times during accumulation, except:
- (i) When adding, removing, or consolidating waste; or
 - (ii) When temporary venting of a container is necessary
 - (A) For the proper operation of equipment, or
 - (B) To prevent dangerous situations, such as build-up of extreme pressure.
- (5) A generator must mark or label its container with the following:
- (i) The words “Hazardous Waste” and
 - (ii) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).
- (6) A generator who accumulates either acute hazardous waste listed in §261.31 or §261.33(e) of this chapter or non-acute hazardous waste in excess of the amounts listed in paragraph (a) of this section at or near any point of generation must do the following:
- (i) Comply within three consecutive calendar days with the applicable central accumulation area rules in §262.16(b) or §262.17(a), or
 - (ii) Remove the excess from the satellite accumulation area within three consecutive calendar days to either:
 - (A) A central accumulation area operated in accordance with the applicable rules in §262.16(b) or §262.17(a);
 - (B) An on-site interim status or permitted treatment, storage, or disposal facility, or
 - (C) An off-site designated facility; and
 - (iii) During the three-consecutive-calendar-day period the generator must continue to comply with paragraphs (a)(1) through (5) of this section. The generator must mark or label the container(s) holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.
- (7) All satellite accumulation areas operated by a small quantity generator must meet the preparedness and prevention rules of §262.16(b)(8) and emergency procedures at §262.16(b)(9).
- (8) All satellite accumulation areas operated by a large quantity generator must meet the Preparedness, Prevention and Emergency Procedures in subsection M of this part.

(b) [Reserved]

§262.16 Conditions for exemption for a small quantity generator that accumulates hazardous waste

A small quantity generator may accumulate hazardous waste on site without a permit or interim status, and without complying with the requirements of 40 CFR part 124, and sections 264 through 267, and 270 of this rule, or the notification requirements of section 3010 of RCRA, provided that all the conditions for exemption listed in this section are met:

(a) Generation. The generator generates in a calendar month no more than the amounts specified in the definition of “small quantity generator” in §260.10 of this chapter.

(b) Accumulation. The generator accumulates hazardous waste on site for no more than 180 days, unless in compliance with the conditions for exemption for longer accumulation in paragraphs (d) and (e) of this section. The following accumulation conditions also apply:

(1) Accumulation limit. The quantity of hazardous waste accumulated on site never exceeds 6,000 kilograms (13,200 pounds);

(2) Accumulation of hazardous waste in containers—(i) Condition of containers. If a container holding hazardous waste is not in good condition, or if it begins to leak, the small quantity generator must immediately transfer the hazardous waste from this container to a container that is in good condition, or immediately manage the waste in some other way that complies with the conditions for exemption of this section.

(ii) Compatibility of waste with container. The small quantity generator must use a container made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be accumulated, so that the ability of the container to contain the waste is not impaired.

(iii) Management of containers.

(A) A container holding hazardous waste must always be closed during accumulation, except when it is necessary to add or remove waste.

(B) A container holding hazardous waste must not be opened, handled, or accumulated in a manner that may rupture the container or cause it to leak.

(iv) Inspections. At least weekly, the small quantity generator must inspect central accumulation areas. The small quantity generator must look for leaking containers and for deterioration of containers caused by corrosion or other factors. See paragraph (b)(2)(i) of this section for remedial action required if deterioration or leaks are detected.

(v) Special conditions for accumulation of incompatible wastes.

(A) Incompatible wastes, or incompatible wastes and materials, (see appendix V of section 265 for examples) must not be placed in the same container, unless §265.17(b) of this chapter is complied with.

(B) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see appendix V of part 265 for examples), unless §265.17(b) of this chapter is complied with.

(C) A container accumulating hazardous waste that is incompatible with any waste or other materials accumulated or stored nearby in other containers, piles, open

tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

(3) Accumulation of hazardous waste in tanks.

(i) [Reserved]

(ii) A small quantity generator of hazardous waste must comply with the following general operating conditions:

(A) Treatment or accumulation of hazardous waste in tanks must comply with §265.17(b) of this chapter.

(B) Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(C) Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (*e.g.*, dike or trench), a drainage control system, or a diversion structure (*e.g.*, standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank.

(D) Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (*e.g.*, waste feed cutoff system or by-pass system to a stand-by tank).

(iii) Except as noted in paragraph (b)(3)(iv) of this section, a small quantity generator that accumulates hazardous waste in tanks must inspect, where present:

(A) Discharge control equipment (*e.g.*, waste feed cutoff systems, by-pass systems, and drainage systems) at least once each operating day, to ensure that it is in good working order;

(B) Data gathered from monitoring equipment (*e.g.*, pressure and temperature gauges) at least once each operating day to ensure that the tank is being operated according to its design;

(C) The level of waste in the tank at least once each operating day to ensure compliance with paragraph (b)(3)(ii)(C) of this section;

(D) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and

(E) The construction materials of, and the area immediately surrounding, discharge confinement structures (*e.g.*, dikes) at least weekly to detect erosion or obvious signs of leakage (*e.g.*, wet spots or dead vegetation). The generator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(iv) A small quantity generator accumulating hazardous waste in tanks or tank systems that have full secondary containment and that either use leak detection equipment to alert personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, must inspect at least weekly, where applicable, the areas identified in paragraphs (b)(3)(iii)(A) through (E) of this section. Use of the alternate inspection schedule must be documented in the generator's operating record. This documentation must include a description of the established workplace practices at the generator.

(v) [Reserved]

(vi) A small quantity generator accumulating hazardous waste in tanks must, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures. At closure, as throughout the operating period, unless the small quantity generator can demonstrate, in accordance with §261.3(c) or (d) of this chapter, that any solid waste removed from its tank is not a hazardous waste, then it must manage such waste in accordance with all applicable provisions of sections 262, 263, 265 and 268 of this rule.

(vii) A small quantity generator must comply with the following special conditions for accumulation of ignitable or reactive waste:

(A) Ignitable or reactive waste must not be placed in a tank, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in a tank so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under §261.21 or §261.23 of this rule and §265.17(b) of this rule is complied with; or

(2) The waste is accumulated or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank is used solely for emergencies.

(B) A small quantity generator which treats or accumulates ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981) (incorporated by reference, see §260.11).

(C) A small quantity generator must comply with the following special conditions for incompatible wastes:

(1) Incompatible wastes, or incompatible wastes and materials, (see section 265 appendix V for examples) must not be placed in the same tank, unless §265.17(b) of this rule is complied with.

(2) Hazardous waste must not be placed in an unwashed tank that previously held an incompatible waste or material, unless §265.17(b) of this rule is complied with.

(4) Accumulation of hazardous waste on drip pads. If the waste is placed on drip pads, the small quantity generator must comply with the following:

(i) Subsection W of section 265 (except §265.445 (c));

(ii) The small quantity generator must remove all wastes from the drip pad at least once every 90 days. Any hazardous wastes that are removed from the drip pad at least once every 90 days are then subject to the 180-day accumulation limit in paragraph (b) of this section and §262.15 if hazardous wastes are being managed in satellite accumulation areas prior to being moved to the central accumulation area; and

(iii) The small quantity generator must maintain on site at the facility the following records readily available for inspection:

(A) A written description of procedures that are followed to ensure that all wastes are removed from the drip pad and associated collection system at least once every 90 days; and

(B) Documentation of each waste removal, including the quantity of waste removed from the drip pad and the sump or collection system and the date and time of removal.

(5) Accumulation of hazardous waste in containment buildings. If the waste is placed in containment buildings, the small quantity generator must comply with of section 265 subsection DD. The generator must label its containment buildings with the words “Hazardous Waste” in a conspicuous place easily visible to employees, visitors, emergency responders, waste handlers, or other persons on site and also in a conspicuous place provide an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).The generator must also maintain:

(i) The professional engineer certification that the building complies with the design standards specified in § 265.1101. This certification must be in the generator's files prior to operation of the unit; and

(ii) The following records by use of inventory logs, monitoring equipment, or any other effective means:

(A) A written description of procedures to ensure that each waste volume remains in the unit for no more than 90 days, a written description of the waste generation and management practices for the facility showing that the generator is consistent with maintaining the 90 day limit, and documentation that the procedures are complied with; or

(B) Documentation that the unit is emptied at least once every 90 days.

(C) Inventory logs or records with the above information must be maintained on site and readily available for inspection.

(6) Labeling and marking of containers and tanks—.

(i) Containers. A small quantity generator must mark or label its containers with the following:

(A) The words “Hazardous Waste”;

(B) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704); and

(C) The date upon which each period of accumulation begins clearly visible for inspection on each container.

(ii) Tanks. A small quantity generator accumulating hazardous waste in tanks must do the following:

(A) Mark or label its tanks with the words “Hazardous Waste”;

(B) Mark or label its tanks with an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.*, ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704);

(C) Use inventory logs, monitoring equipment, or other records to demonstrate that hazardous waste has been emptied within 180 days of first entering the tank if using a batch process, or in the case of a tank with a continuous flow process, demonstrate that estimated volumes of hazardous waste entering the tank daily exit the tank within 180 days of first entering; and

(D) Keep inventory logs or records with the above information on site and readily available for inspection.

(7) Land disposal restrictions. A small quantity generator must comply with all the applicable requirements under section 268.

(8) Preparedness and prevention—(i) Maintenance and operation of facility. A small quantity generator must maintain and operate its facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

(ii) Required equipment. All areas where hazardous waste is either generated or accumulated must be equipped with the items in paragraphs (b)(8)(ii)(A) through (D) of this section (*unless* none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below or the actual waste generation or accumulation area does not lend itself for safety reasons to have a particular kind of equipment specified below). A small quantity generator may determine the most appropriate locations to locate equipment necessary to prepare for and respond to emergencies.

(A) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(B) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(C) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(D) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

(iii) Testing and maintenance of equipment. All communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

(iv) Access to communications or alarm system.

(A) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access (*e.g.*, direct or unimpeded access) to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, *unless* such a device is not required under paragraph (a)(8)(ii) of this section.

(B) In the event there is just one employee on the premises while the facility is operating, the employee must have immediate access (*e.g.*, direct or unimpeded access) to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* such a device is not required under paragraph (a)(8)(ii) of this section.

(v) Required aisle space. The small quantity generator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

(vi) Arrangements with local authorities.

(A) The small quantity generator must attempt to make arrangements with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers and local hospitals, taking into account the types and quantities of hazardous wastes handled at the facility. Arrangements may be made with the Local Emergency Planning Committee, if it is determined to be the appropriate organization with which to make arrangements.

(1) A small quantity generator attempting to make arrangements with its local fire department must determine the potential need for the services of the local police department, other emergency response teams, emergency response contractors, equipment suppliers and local hospitals.

(2) As part of this coordination, the small quantity generator shall attempt to make arrangements, as necessary, to familiarize the above organizations with the layout of the facility, the properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes as well as the types of injuries or illnesses that could result from fires, explosions, or releases at the facility.

(3) Where more than one police or fire department might respond to an emergency, the small quantity generator shall attempt to make arrangements designating primary emergency authority to a specific fire or police department, and arrangements with any others to provide support to the primary emergency authority.

(B) A small quantity generator shall maintain records documenting the arrangements with the local fire department as well as any other organization necessary to respond to an emergency. This documentation must include documentation in the operating record that either confirms such arrangements actively exist or, in cases where no arrangements exist, confirms that attempts to make such arrangements were made.

(C) A facility possessing 24-hour response capabilities may seek a waiver from the authority having jurisdiction (AHJ) over the fire code within the facility's state or

locality as far as needing to make arrangements with the local fire department as well as any other organization necessary to respond to an emergency, provided that the waiver is documented in the operating record.

(9) Emergency procedures. The small quantity generator complies with the following conditions for those areas of the generator facility where hazardous waste is generated and accumulated:

(i) At all times there must be at least one employee either on the premises or on call (*i.e.*, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (b)(9)(iv) of this section. This employee is the emergency coordinator.

(ii) The small quantity generator must post the following information next to telephones or in areas directly involved in the generation and accumulation of hazardous waste:

(A) The name and emergency telephone number of the emergency coordinator;

(B) Location of fire extinguishers and spill control material, and, if present, fire alarm; and

(C) The telephone number of the fire department, unless the facility has a direct alarm.

(iii) The small quantity generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(iv) The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(A) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(B) In the event of a spill, the small quantity generator is responsible for containing the flow of hazardous waste to the extent possible, and as soon as is practicable, cleaning up the hazardous waste and any contaminated materials or soil. Such containment and cleanup can be conducted either by the small quantity generator or by a contractor on behalf of the small quantity generator;

(C) In the event of a fire, explosion, or other release that could threaten human health outside the facility or when the small quantity generator has knowledge that a spill has reached surface water, the small quantity generator must immediately notify the National Response Center (using their 24-hour toll free number 800/424-8802).

The report must include the following information:

(1) The name, address, and U.S. EPA identification number of the small quantity generator;

(2) Date, time, and type of incident (*e.g.*, spill or fire);

(3) Quantity and type of hazardous waste involved in the incident;

(4) Extent of injuries, if any; and

(5) Estimated quantity and disposition of recovered materials, if any.

(c) Transporting over 200 miles. A small quantity generator who must transport its waste, or offer its waste for transportation, over a distance of 200 miles or more for off-site treatment, storage or disposal may accumulate hazardous waste on site for 270 days or less without a permit

or without having interim status provided that the generator complies with the conditions of paragraph (b) of this section.

(d) Accumulation time limit extension. A small quantity generator who accumulates hazardous waste for more than 180 days (or for more than 270 days if it must transport its waste, or offer its waste for transportation, over a distance of 200 miles or more) is subject to the requirements of sections 264, 265, 267, 268, and 270 of this rule unless it has been granted an extension to the 180-day (or 270-day if applicable) period. Such extension may be granted by the Director if hazardous wastes must remain on site for longer than 180 days (or 270 days if applicable) due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Director on a case-by-case basis.

(e) Rejected load. A small quantity generator who sends a shipment of hazardous waste to a designated facility with the understanding that the designated facility can accept and manage the waste and later receives that shipment back as a rejected load or residue in accordance with the manifest discrepancy provisions of §264.72 or §265.72 of this chapter may accumulate the returned waste on site in accordance with paragraphs (a)-(d) of this section. Upon receipt of the returned shipment, the generator must:

- (1) Sign Item 18c of the manifest, if the transporter returned the shipment using the original manifest; or
- (2) Sign Item 20 of the manifest, if the transporter returned the shipment using a new manifest.

(f) A small quantity generator experiencing an episodic event may accumulate hazardous waste in accordance with subsection L of this section in lieu of §262.17.

§262.17 Conditions for exemption for a large quantity generator that accumulates hazardous waste

A large quantity generator may accumulate hazardous waste on site without a permit or interim status, and without complying with the requirements of 40 CFR part 124, and sections 264 through 267, and 270 of this rule, or the notification requirements of section 3010 of RCRA, provided that all of the following conditions for exemption are met:

(a) Accumulation. A large quantity generator accumulates hazardous waste on site for no more than 90 days, unless in compliance with the accumulation time limit extension or F006 accumulation conditions for exemption in paragraphs (b) through (e) of this section. The following accumulation conditions also apply:

- (1) Accumulation of hazardous waste in containers. If the hazardous waste is placed in containers, the large quantity generator must comply with the following:
 - (i) Air emission standards. The applicable requirements of subsections AA, BB, and CC of section 265;
 - (ii) Condition of containers. If a container holding hazardous waste is not in good condition, or if it begins to leak, the large quantity generator must immediately transfer the hazardous waste from this container to a container that is in good condition, or immediately manage the waste in some other way that complies with the conditions for exemption of this section;
 - (iii) Compatibility of waste with container. The large quantity generator must use a container made of or lined with materials that will not react with, and are otherwise

compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired;

(iv) Management of containers.

(A) A container holding hazardous waste must always be closed during accumulation, except when it is necessary to add or remove waste.

(B) A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

(v) Inspections. At least weekly, the large quantity generator must inspect central accumulation areas. The large quantity generator must look for leaking containers and for deterioration of containers caused by corrosion or other factors. See paragraph (a)(1)(ii) of this section for remedial action required if deterioration or leaks are detected.

(vi) Special conditions for accumulation of ignitable and reactive wastes.

(A) Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line unless a written approval is obtained from the authority having jurisdiction over the local fire code allowing hazardous waste accumulation to occur within this restricted area. A record of the written approval must be maintained as long as ignitable or reactive hazardous waste is accumulated in this area.

(B) The large quantity generator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to the following: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the large quantity generator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(vii) Special conditions for accumulation of incompatible wastes.

(A) Incompatible wastes, or incompatible wastes and materials, (see appendix V of section 265 for examples) must not be placed in the same container, unless §265.17(b) of this regulation is complied with.

(B) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see appendix V of section 265 for examples), unless §265.17(b) of this rule is complied with.

(C) A container holding a hazardous waste that is incompatible with any waste or other materials accumulated or stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

(2) Accumulation of hazardous waste in tanks. If the waste is placed in tanks, the large quantity generator must comply with the applicable requirements of subsections J, except §265.197(c) of Closure and post-closure care and §265.200—Waste analysis and trial tests, as well as the applicable requirements of AA, BB, and CC of section 265.

(3) Accumulation of hazardous waste on drip pads. If the hazardous waste is placed on drip pads, the large quantity generator must comply with the following:

(i) Subsection W of section 265;

(ii) The large quantity generator must remove all wastes from the drip pad at least once every 90 days. Any hazardous wastes that are removed from the drip pad are then subject to the 90-day accumulation limit in paragraph (a) of this section and §262.15, if the hazardous wastes are being managed in satellite accumulation areas prior to being moved to a central accumulation area; and

(iii) The large quantity generator must maintain on site at the facility the following records readily available for inspection:

(A) A written description of procedures that are followed to ensure that all wastes are removed from the drip pad and associated collection system at least once every 90 days; and

(B) Documentation of each waste removal, including the quantity of waste removed from the drip pad and the sump or collection system and the date and time of removal.

(4) Accumulation of hazardous waste in containment buildings. If the waste is placed in containment buildings, the large quantity generator must comply with of section 265 subsection DD. The generator must label its containment building with the words “Hazardous Waste” in a conspicuous place easily visible to employees, visitors, emergency responders, waste handlers, or other persons on site, and also in a conspicuous place provide an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704). The generator must also maintain:

(i) The professional engineer certification that the building complies with the design standards specified in § 265.1101. This certification must be in the generator's files prior to operation of the unit; and

(ii) The following records by use of inventory logs, monitoring equipment, or any other effective means:

(A) A written description of procedures to ensure that each waste volume remains in the unit for no more than 90 days, a written description of the waste generation and management practices for the facility showing that the generator is consistent with respecting the 90 day limit, and documentation that the procedures are complied with; or

(B) Documentation that the unit is emptied at least once every 90 days.

(C) Inventory logs or records with the above information must be maintained on site and readily available for inspection.

(5) Labeling and marking of containers and tanks—

(i) Containers. A large quantity generator must mark or label its containers with the following:

(A) The words “Hazardous Waste”;

(B) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of

Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704); and

(C) The date upon which each period of accumulation begins clearly visible for inspection on each container.

(ii) Tanks. A large quantity generator accumulating hazardous waste in tanks must do the following:

(A) Mark or label its tanks with the words “Hazardous Waste”;

(B) Mark or label its tanks with an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704);

(C) Use inventory logs, monitoring equipment or other records to demonstrate that hazardous waste has been emptied within 90 days of first entering the tank if using a batch process, or in the case of a tank with a continuous flow process, demonstrate that estimated volumes of hazardous waste entering the tank daily exit the tank within 90 days of first entering; and

(D) Keep inventory logs or records with the above information on site and readily available for inspection.

(6) Emergency procedures. The large quantity generator complies with the standards in subsection M of this section, Preparedness, Prevention and Emergency Procedures for Large Quantity Generators.

(7) Personnel training.

(i)(A) Facility personnel must successfully complete a program of classroom instruction, online training (e.g., computer-based or electronic), or on-the-job training that teaches them to perform their duties in a way that ensures compliance with this part. The large quantity generator must ensure that this program includes all the elements described in the document required under paragraph (a)(7)(iv) of this section.

(B) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(C) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

(1) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(2) Key parameters for automatic waste feed cut-off systems;

(3) Communications or alarm systems;

- (4) Response to fires or explosions;
- (5) Response to ground-water contamination incidents; and
- (6) Shutdown of operations.

(D) For facility employees that receive emergency response training pursuant to Occupational Safety and Health Administration regulations 29 CFR 1910.120(p)(8) and 1910.120(q), the large quantity generator is not required to provide separate emergency response training pursuant to this section, provided that the overall facility training meets all the conditions of exemption in this section.

(ii) Facility personnel must successfully complete the program required in paragraph (a)(7)(i) of this section within six months after the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees must not work in unsupervised positions until they have completed the training standards of paragraph (a)(7)(i) of this section.

(iii) Facility personnel must take part in an annual review of the initial training required in paragraph (a)(7)(i) of this section.

(iv) The large quantity generator must maintain the following documents and records at the facility:

(A) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(B) A written job description for each position listed under paragraph (a)(7)(iv)(A) of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;

(C) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (a)(7)(iv)(A) of this section;

(D) Records that document that the training or job experience, required under paragraphs (a)(7)(i), (ii), and (iii) of this section, has been given to, and completed by, facility personnel.

(v) Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

(8) Closure. A large quantity generator accumulating hazardous wastes in containers, tanks, drip pads, and containment buildings, prior to closing a unit at the facility, or prior to closing the facility, must meet the following conditions:

(i) Notification for closure of a waste accumulation unit. A large quantity generator must perform one of the following when closing a waste accumulation unit:

(A) Place a notice in the operating record within 30 days after closure identifying the location of the unit within the facility; or

(B) Meet the closure performance standards of paragraph (a)(8)(iii) of this section for container, tank, and containment building waste accumulation units or paragraph (a)(8)(iv) of this section for drip pads and notify the Director following the procedures in paragraph (a)(8)(ii)(B) of this section for the waste accumulation unit.

If the waste accumulation unit is subsequently reopened, the generator may remove the notice from the operating record.

(ii) Notification for closure of the facility.

(A) Notify the Director using form 8700-12 no later than 30 days prior to closing the facility.

(B) Notify the Director using form 8700-12 within 90 days after closing the facility that it has complied with the closure performance standards of paragraph (a)(8)(iii) or (iv) of this section. If the facility cannot meet the closure performance standards of paragraph (a)(8)(iii) or (iv) of this section, notify the Director using form 8700-12 that it will close as a landfill under §265.310 of this chapter in the case of a container, tank or containment building unit(s), or for a facility with drip pads, notify using form 8700-12 that it will close under the standards of §265.445(b).

(C) A large quantity generator may request additional time to clean close, but it must notify the Director using form 8700-12 within 75 days after the date provided in paragraph (a)(8)(ii)(A) of this section to request an extension and provide an explanation as to why the additional time is required.

(iii) Closure performance standards for container, tank systems, and containment building waste accumulation units.

(A) At closure, the generator must close the waste accumulation unit or facility in a manner that:

(1) Minimizes the need for further maintenance by controlling, minimizing, or eliminating, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere,

(2) Removes or decontaminates all contaminated equipment, structures and soil and any remaining hazardous waste residues from waste accumulation units including containment system components (pads, liners, etc.), contaminated soils and subsoils, bases, and structures and equipment contaminated with waste, unless §261.3(d) of this rule applies.

(3) Any hazardous waste generated in the process of closing either the generator's facility or unit(s) accumulating hazardous waste must be managed in accordance with all applicable standards of sections 262, 263, 265 and 268 of this rule, including removing any hazardous waste contained in these units within 90 days of generating it and managing these wastes in a RCRA Subtitle C hazardous waste permitted treatment, storage and disposal facility or interim status facility.

(4) If the generator demonstrates that any contaminated soils and wastes cannot be practicably removed or decontaminated as required in paragraph (a)(8)(ii)(A)(2) of this section, then the waste accumulation unit is considered to be a landfill and the generator must close the waste accumulation unit and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§265.310 of this rule). In addition, for the purposes of closure, post-closure, and financial responsibility, such a waste accumulation unit is then considered to be a landfill, and the generator

must meet all of the requirements for landfills specified in subsections G and H of section 265 of this rule.

(iv) Closure performance standards for drip pad waste accumulation units. At closure, the generator must comply with the closure requirements of paragraphs (a)(8)(ii) and (a)(8)(iii)(A)(1) and (3) of this section, and §265.445(a) and (b) of this rule.

(v) The closure requirements of paragraph (a)(8) of this section do not apply to satellite accumulation areas.

(9) Land disposal restrictions. The large quantity generator complies with all applicable requirements under section 268.

(b) Accumulation time limit extension. A large quantity generator who accumulates hazardous waste for more than 90 days is subject to the requirements of 40 CFR part 124, and sections 264 through 268, and part 270 of this rule, and the notification requirements of section 3010 of RCRA, unless it has been granted an extension to the 90-day period. Such extension may be granted by the Director if hazardous wastes must remain on site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Director on a case-by-case basis.

(c) Accumulation of F006. A large quantity generator who also generates wastewater treatment sludges from electroplating operations that meet the listing description for the EPA hazardous waste number F006, may accumulate F006 waste on site for more than 90 days, but not more than 180 days without being subject to 40 CFR part 124, and sections 264 through 267 and 270 of this rule, and the notification requirements of section 3010 of RCRA, provided that it complies with all of the following additional conditions for exemption:

(1) The large quantity generator has implemented pollution prevention practices that reduce the amount of any hazardous substances, pollutants, or contaminants entering F006 or otherwise released to the environment prior to its recycling;

(2) The F006 waste is legitimately recycled through metals recovery;

(3) No more than 20,000 kilograms of F006 waste is accumulated on site at any one time; and

(4) The F006 waste is managed in accordance with the following:

(i)(A) If the F006 waste is placed in containers, the large quantity generator must comply with the applicable conditions for exemption in paragraph (a)(1) of this section; and/or

(B) If the F006 is placed in tanks, the large quantity generator must comply with the applicable conditions for exemption of paragraph (a)(2) of this section; and/or

(C) If the F006 is placed in containment buildings, the large quantity generator must comply with subsection DD of section 265, and has placed its professional engineer certification that the building complies with the design standards specified in § 265.1101 in the facility's files prior to operation of the unit. The large quantity generator must maintain the following records:

(1) A written description of procedures to ensure that the F006 waste remains in the unit for no more than 180 days, a written description of the waste generation and management practices for the facility showing that they are consistent with the 180-day limit, and documentation that the large quantity generator is complying with the procedures; or

(2) Documentation that the unit is emptied at least once every 180 days.

(ii) The large quantity generator is exempt from all the requirements in subsection G and H of section 265, except for those referenced in paragraph (a)(8) of this section.

(iii) The date upon which each period of accumulation begins is clearly marked and must be clearly visible for inspection on each container;

(iv) While being accumulated on site, each container and tank is labeled or marked clearly with:

(A) The words “Hazardous Waste”; and

(B) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

(v) The large quantity generator complies with the requirements in paragraphs(a)(6) and (7) of this section.

(d) F006 transported over 200 miles. A large quantity generator who also generates wastewater treatment sludges from electroplating operations that meet the listing description for the EPA hazardous waste number F006, and who must transport this waste, or offer this waste for transportation, over a distance of 200 miles or more for off-site metals recovery, may accumulate F006 waste on site for more than 90 days, but not more than 270 days without being subject to 40 CFR part 124, and sections 264 through 267, 270, and the notification requirements of section 3010 of RCRA, if the large quantity generator complies with all of the conditions for exemption of paragraphs (c)(1) through (4) of this section.

(e) F006 accumulation time extension. A large quantity generator accumulating F006 in accordance with paragraphs (c) and (d) of this section who accumulates F006 waste on site for more than 180 days (or for more than 270 days if the generator must transport this waste, or offer this waste for transportation, over a distance of 200 miles or more), or who accumulates more than 20,000 kilograms of F006 waste on site is an operator of a storage facility and is subject to the requirements of 40 CFR part 124, and sections 264, 265, 267, and 270 of this rule, and the notification requirements of section 3010 of RCRA, unless the generator has been granted an extension to the 180-day (or 270-day if applicable) period or an exception to the 20,000 kilogram accumulation limit. Such extensions and exceptions may be granted by the Director if F006 waste must remain on site for longer than 180 days (or 270 days if applicable) or if more than 20,000 kilograms of F006 waste must remain on site due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days or an exception to the accumulation limit may be granted at the discretion of the Director on a case-by-case basis.

(f) Consolidation of hazardous waste received from very small quantity generators. Large quantity generators may accumulate on site hazardous waste received from very small quantity generators under control of the same person (as defined in §260.10 of this chapter), without a storage permit or interim status and without complying with the requirements of 40 CFR part 124, and sections 264 through 268, and 270 of this rule, and the notification requirements of section 3010 of RCRA, provided that they comply with the following conditions. “Control,” for the purposes of this section, means the power to direct the policies of the generator, whether by

the ownership of stock, voting rights, or otherwise, except that contractors who operate generator facilities on behalf of a different person shall not be deemed to “control” such generators.

(1) The large quantity generator notifies the Director at least thirty (30) days prior to receiving the first shipment from a very small quantity generator(s) using EPA Form 8700-12; and

(i) Identifies on the form the name(s) and site address(es) for the very small quantity generator(s) as well as the name and business telephone number for a contact person for the very small quantity generator(s); and

(ii) Submits an updated Site ID form (EPA Form 8700-12) within 30 days after a change in the name or site address for the very small quantity generator.

(2) The large quantity generator maintains records of shipments for three years from the date the hazardous waste was received from the very small quantity generator. These records must identify the name, site address, and contact information for the very small quantity generator and include a description of the hazardous waste received, including the quantity and the date the waste was received.

(3) The large quantity generator complies with the independent requirements identified in §262.10(a)(1)(iii) and the conditions for exemption in this section for all hazardous waste received from a very small quantity generator. For purposes of the labeling and marking rules in paragraph (a)(5) of this section, the large quantity generator must label the container or unit with the date accumulation started (i.e., the date the hazardous waste was received from the very small quantity generator). If the large quantity generator is consolidating incoming hazardous waste from a very small quantity generator with either its own hazardous waste or with hazardous waste from other very small quantity generators, the large quantity generator must label each container or unit with the earliest date any hazardous waste in the container was accumulated on site.

(g) Rejected load. A large quantity generator who sends a shipment of hazardous waste to a designated facility with the understanding that the designated facility can accept and manage the waste and later receives that shipment back as a rejected load or residue in accordance with the manifest discrepancy provisions of §264.72 or §265.72 of this rule may accumulate the returned waste on site in accordance with paragraphs (a) and (b) of this section. Upon receipt of the returned shipment, the generator must:

(1) Sign Item 18c of the manifest, if the transporter returned the shipment using the original manifest; or

(2) Sign Item 20 of the manifest, if the transporter returned the shipment using a new manifest.

§262.18 EPA identification numbers and re-notification for small quantity generators and large quantity generators

(a) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an EPA identification number from the Director.

(b) A generator who has not received an EPA identification number must obtain one by applying to the Administrator using EPA Form 8700-12. Upon receiving the request the Director will assign an EPA identification number to the generator.

(c) A generator must not offer its hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number.

(1) A generator may not ship hazardous waste to a treatment, storage, or disposal facility (TSDF) unless the TSDF has a valid permit, or has interim status, or is specifically approved to receive such waste.

(d) Re-notification.

(1) A small quantity generator must re-notify the Director starting in 2021 and every four years thereafter using EPA Form 8700-12. This re-notification must be submitted by September 1st of each year in which re-notifications are required.

(2) A large quantity generator must re-notify the Director by March 1 of each even-numbered year thereafter using EPA Form 8700-12. A large quantity generator may submit this re-notification as part of its Annual Report required under §262.41.

(e) A recognized trader must not arrange for import or export of hazardous waste without having received an EPA identification number from the Director.

§ 262.19 Very Small Quantity Generators, Small Quantity Generators, and Large Quantity Generators

(a) Generators must use a transporter that is permitted by the Arkansas Department of Transportation for the transportation of hazardous waste.

(b) Very Small Quantity Generators must manifest hazardous waste in accordance with Section 262 Subsection B of this rule.

(c) Very Small Quantity Generators must keep hazardous waste containers closed except when adding or removing waste.

(d) Very Small Quantity Generators must keep hazardous waste containers in good condition. If a hazardous waste container is not in good condition, or if it begins to leak, the Very Small Quantity Generator must immediately transfer the hazardous waste from this container to a container that is in good condition, or immediately manage the waste in some other way that complies with this requirement.

Subsection B -- Manifest Requirements Applicable to Small and Large Quantity Generators

§ 262.20 General Requirements

(a)(1) A generator who transports, or offers for transport a hazardous waste for offsite treatment, storage, or disposal, or a treatment, storage, and disposal facility who offers for transport a rejected hazardous waste load, must prepare a Manifest (OMB Control number 2050-0039) on EPA Form 8700-22, and, if necessary, EPA Form 8700-22A.

(2) The revised manifest form and procedures in Sections 260.10, 261.7, 262.20, 262.21, 262.27, 262.32, 262.34, 262.54, and 262.60 of this Rule, shall not apply until September 5, 2006. The manifest form and procedures in Sections 260.10, 261.7, 262.20, 262.21, 262.32, 262.34, 262.54, and 262.60 contained in the 40 CFR, parts 260 to 265, edition revised as of July 1, 2004, shall be applicable until September 5, 2006.

(3) Electronic Manifest. In lieu of using the manifest form specified in paragraph (a)(1) of this section, a person required to prepare a manifest under paragraph (a)(1) of this section may prepare and use an electronic manifest, provided that the person:

(i) Complies with the requirements in § 262.24 of this part for use of electronic manifests, and

(ii) Complies with the requirements of 40 CFR § 3.10 for the reporting of electronic documents to EPA.

(b) A generator must designate on the manifest one treatment, storage, or disposal facility which is permitted to handle the waste described on the manifest.

(c) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(d) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste to the generator.

(e) *[Reserved]*

(f) The requirements of this subsection and § 262.32(b) do not apply to the transport of hazardous wastes on a public or private right-of-way within or along the border of contiguous property under the control of the same person, even if such contiguous property is divided by a public or private right-of-way. Notwithstanding § 263.10(a), the generator or transporter must comply with the requirements for transporters set forth in §§ 263.30 and 263.31 in the event of a discharge of hazardous waste on a public or private right-of-way.

§ 262.21 Manifest tracking numbers, manifest printing, and obtaining manifests

(a) (1) A registrant may not print, or have printed, the manifest for use or distribution unless it has received approval from the U.S. EPA Director of the Office of Solid Waste to do so under paragraphs (c) and (e) of this section.

(2) The approved registrant is responsible for ensuring that the organizations identified in its application are in compliance with the procedures of its approved application and the requirements of this section. The registrant is responsible for assigning manifest tracking numbers to its manifests.

(b) A registrant must submit an initial application to the EPA Director of the Office of Solid Waste that contains the following information:

- (1) Name and mailing address of registrant;
- (2) Name, telephone number and email address of contact person;
- (3) Brief description of registrant's government or business activity;
- (4) EPA identification number of the registrant, if applicable;
- (5) Description of the scope of the operations that the registrant plans to undertake in printing, distributing, and using its manifests, including:
 - (i) A description of the printing operation. The description should include an explanation of whether the registrant intends to print its manifests in-house (i.e., using its own printing establishments) or through a separate (i.e., unaffiliated) printing company. If the registrant intends to use a separate printing company to print the manifest on its behalf, the application must identify this printing company and discuss how the registrant will oversee the company. If this includes the use of intermediaries (e.g., prime and subcontractor relationships), the role of each must be discussed. The application must provide the name and mailing address of each company. It also must

provide the name and telephone number of the contact person at each company.

(ii) A description of how the registrant will ensure that its organization and unaffiliated companies, if any, comply with the requirements of this section. The application must discuss how the registrant will ensure that a unique manifest tracking number will be pre-printed on each manifest. The application must describe the internal control procedures to be followed by the registrant and unaffiliated companies to ensure that numbers are tightly controlled and remain unique. In particular, the application must describe how the registrant will assign manifest tracking numbers to its manifests. If computer systems or other infrastructure will be used to maintain, track, or assign numbers, these should be indicated. The application must also indicate how the printer will pre-print a unique number on each form (e.g., crash or press numbering). The application also must explain the other quality procedures to be followed by each establishment and printing company to ensure that all required print specifications are consistently achieved and that printing violations are identified and corrected at the earliest practicable time.

(iii) An indication of whether the registrant intends to use the manifests for its own business operations or to distribute the manifests to a separate company or to the general public (e.g., for purchase).

(6) A brief description of the qualifications of the company that will print the manifest. The registrant may use readily available information to do so (e.g., corporate brochures, product samples, customer references, documentation of ISO certification), so long as such information pertains to the establishments or company being proposed to print the manifest.

(7) Proposed unique three-letter manifest tracking number suffix. If the registrant is approved to print the manifest, the registrant must use this suffix to pre-print a unique manifest tracking number on each manifest.

(8) A signed certification by a duly authorized employee of the registrant that the organizations and companies in its application will comply with the procedures of its approved application and the requirements of this Section and that it will notify the EPA Director of the Office of Solid Waste of any duplicated manifest tracking numbers on manifests that have been used or distributed to other parties as soon as this becomes known.

(c) EPA will review the application submitted under paragraph (b) of this section and either approve it or request additional information or modification before approving it.

(d)(1) Upon EPA approval of the application under paragraph (c) of this section, EPA will provide the registrant an electronic file of the manifest, continuation sheet, and manifest instructions and ask the registrant to submit three fully assembled manifests and continuation sheet samples, except as noted in paragraph (d)(3) of this section. The registrant's samples must meet all of the specifications in paragraph (f) of this section and be printed by the company that will print the manifest as identified in the application approved under paragraph (c) above.

(2) The registrant must submit a description of the manifest samples as follows:

- (i) Paper type (i.e., manufacturer and grade of the manifest paper);
- (ii) Paper weight of each copy;
- (iii) Ink color of the manifest's instructions. If screening of the ink was used, the registrant must indicate the extent of the screening; and
- (iv) Method of binding the copies.

(3) The registrant need not submit samples of the continuation sheet if it will print its

continuation sheet using the same paper type, paper weight of each copy, ink color of the instructions, and binding method as its manifest form samples.

(e) EPA will evaluate the forms and either approve the registrant to print them as proposed or request additional information or modification to them before approval. EPA will notify the registrant of its decision by mail. The registrant cannot use or distribute its forms until EPA approves them. An approved registrant must print the manifest and continuation sheet according to its application approved under paragraph (c) of this Section and the manifest specifications in paragraph (f) of this Section. It also must print the forms according to the paper type, paper weight, ink color of the manifest instructions and binding method of its approved forms.

(f) Paper manifests and continuation sheets must be printed according to the following specifications:

(1) The manifest and continuation sheet must be printed with the exact format and appearance as EPA Forms 8700-22 and 8700-22A, respectively. However, information required to complete the manifest may be pre-printed on the manifest form.

(2) A unique manifest tracking number assigned in accordance with a numbering system approved by EPA must be pre-printed in Item 4 of the manifest. The tracking number must consist of a unique three-letter suffix following nine digits.

(3) The manifest and continuation sheet must be printed on 8 ½ x 11-inch white paper, excluding common stubs (e.g., top- or side-bound stubs). The paper must be durable enough to withstand normal use.

(4) The manifest and continuation sheet must be printed in black ink that can be legibly photocopied, scanned, or faxed, except that the marginal words indicating copy distribution must be printed with a distinct ink color or with another method (e.g., white text against black background in text box, or, black text against grey background in text box) that clearly distinguishes the copy distribution notations from the other text and data entries on the form.

(5) The manifest and continuation sheet must be printed as five-copy forms. Copy-to-copy registration must be exact within 1/32nd of an inch. Handwritten and typed impressions on the form must be legible on all five copies. Copies must be bound together by one or more common stubs that reasonably ensure that they will not become detached inadvertently during normal use.

(6) Each copy of the manifest and continuation sheet must indicate how the copy must be distributed, as follows:

- (i) Page 1 (top copy): "Designated facility to EPA's e-Manifest system";
- (ii) Page 2: "Designated facility to generator";
- (iii) Page 3: "Designated facility copy";
- (iv) Page 4: "Transporters copy"; and
- (v) Page 5 (bottom copy): "Generator's initial copy."

(g) (1) A generator may use manifests printed by any source so long as the source of the printed form has received approval from EPA to print the manifest under paragraphs (c) and (e) of this section. A registered source may be a:

- (i) State agency;
- (ii) Commercial printer;
- (iii) Hazardous waste generator, transporter or TSDF; or
- (iv) Hazardous waste broker or other preparer who prepares or arranges shipments of hazardous waste for transportation.

(2) A generator must determine whether the generator state or the consignment state for a shipment regulates any additional wastes (beyond those regulated Federally) as hazardous wastes under these states' authorized programs. Generators also must determine whether the consignment state or generator state requires the generator to submit any copies of the manifest to these states. In cases where the generator must supply copies to either the generator's state or the consignment state, the generator is responsible for supplying legible photocopies of the manifest to these states.

(h)(1) If an approved registrant would like to update any of the information provided in its application approved under paragraph (c) of this section (e.g., to update a company phone number or name of contact person), the registrant must revise the application and submit it to the EPA Director of the Office of Solid Waste, along with an indication or explanation of the update, as soon as practicable after the change occurs. EPA either will approve or deny the revision. If EPA denies the revision, it will explain the reasons for the denial, and it will contact the registrant and request further modification before approval.

(2) If the registrant would like a new tracking number suffix, the registrant must submit a proposed suffix to the EPA Director of the Office of Solid Waste, along with the reason for requesting it. EPA will either approve the suffix or deny the suffix and provide an explanation why it is not acceptable.

(3) If a registrant would like to change the paper type, paper weight, ink color of the manifest instructions, or binding method of its manifest or continuation sheet subsequent to approval under Paragraph (e) of this Subsection, then the registrant must submit three samples of the revised form for EPA review and approval. If the approved registrant would like to use a new printer, the registrant must submit three manifest samples printed by the new printer, along with a brief description of the printer's qualifications to print the manifest. EPA will evaluate the manifests and either approve the registrant to print the forms as proposed or request additional information or modification to them before approval. EPA will notify the registrant of its decision by mail. The registrant cannot use or distribute its revised forms until EPA approves them.

(i) If, subsequent to its approval under Paragraph (e) of this Section, a registrant typesets its manifest or continuation sheet instead of using the electronic file of the forms provided by EPA, it must submit three samples of the manifest or continuation sheet to the registry for approval. EPA will evaluate the manifests or continuation sheets and either approve the registrant to print them as proposed or request additional information or modification to them before approval. EPA will notify the registrant of its decision by mail. The registrant cannot use or distribute its typeset forms until EPA approves them.

(j) EPA may exempt a registrant from the requirement to submit form samples under paragraph (d) or (h)(3) of this section if EPA is persuaded that a separate review of the registrant's forms would serve little purpose in informing an approval decision (e.g., a registrant certifies that it will print the manifest using the same paper type, paper weight, ink color of the instructions and binding method of the form samples approved for some other registrant). A registrant may request an exemption from EPA by indicating why an exemption is warranted.

(k) An approved registrant must notify EPA by phone or email as soon as it becomes aware that it has duplicated tracking numbers on any manifests that have been used or distributed to other parties.

(l) If, subsequent to approval of a registrant under paragraph (e) of this section, EPA becomes

aware that the approved paper type, paper weight, ink color of the instructions, or binding method of the registrant's form is unsatisfactory, EPA will contact the registrant and require modifications to the form.

(m)(1) EPA may suspend and, if necessary, revoke printing privileges if we find that the registrant:

- (i) Has used or distributed forms that deviate from its approved form samples in regard to paper weight, paper type, ink color of the instructions, or binding method; or
- (ii) Exhibits a continuing pattern of behavior in using or distributing manifests that contain duplicate manifest tracking numbers.

(2) EPA will send a warning letter to the registrant that specifies the date by which it must come into compliance with the requirements. If the registrant does not come in compliance by the specified date, EPA will send a second letter notifying the registrant that EPA has suspended or revoked its printing privileges. An approved registrant must provide information on its printing activities to EPA if requested.

§ 262.22 Number of copies

The manifest consists of at least the number of copies which will provide the generator, each transporter, and the owner or operator of the designated facility with one copy each for their records and another copy to be returned to the generator.

§ 262.23 Use of the Manifest

(a) The generator must:

- (1) Sign the manifest certification by hand; and
- (2) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and
- (3) Retain one copy, in accordance with § 262.40(a).

(b) The generator must give the transporter the remaining copies of the manifest.

(c) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(d) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to:

- (1) The next non-rail transporter, if any; or
- (2) The designated facility if transported solely by rail; or
- (3) The last rail transporter to handle the waste in the United States if exported by rail.

(e) For shipments of hazardous waste to a designated facility in an authorized State which has not yet obtained authorization to regulate that particular waste as hazardous, the generator must assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility.

Note: See § 263.20(e) and (f) for special provisions for rail or water (bulk shipment) transporters.

(f) For rejected shipments of hazardous waste or container residues contained in non-empty containers that are returned to the generator by the designated facility (following the procedures of §§ 264.72(f) or 265.72(f)) of this rule, the generator must:

(1) Sign either:

(i) Item 20 of the new manifest if a new manifest is used for the returned shipment; or

(ii) Item 18c of the original manifest if the original manifest is used for the returned shipment;

(2) Provide the transporter a copy of the manifest;

(3) Within 30 days of delivery of the rejected shipment or container residues contained in non-empty containers, send a copy of the manifest to the designated facility that returned the shipment to the generator; and

(4) Retain at the generator's site a copy of each manifest for at least three years from the date of delivery.

§ 262.24 Use of the Electronic Manifest

(a) Legal equivalence to paper manifests. Electronic manifests that are obtained, completed, and transmitted in accordance with § 262.20(a)(3), and used in accordance with this section in lieu of EPA Forms 8700-22 and 8700-22A are the legal equivalent of paper manifest forms bearing handwritten signatures, and satisfy for all purposes any requirement in these rules to obtain, complete, sign, carry, provide, give, use, or retain a manifest.

(1) Any requirement in these rules to sign a manifest or manifest certification by hand, or to obtain a handwritten signature, is satisfied by signing with or obtaining a valid and enforceable electronic signature within the meaning of 40 CFR § 262.25(a).

(2) Any requirement in these rules to give, provide, send, forward, or return to another person a copy of the manifest is satisfied when an electronic manifest is transmitted to the other person by submission to the system.

(3) Any requirement in these rules for a generator to keep or retain a copy of each manifest is satisfied by retention of a signed electronic manifest in the generator's account on the national e-Manifest system, provided that such copies are readily available for viewing and production if requested by any EPA or authorized state inspector.

(4) No generator may be held liable for the inability to produce an electronic manifest for inspection under this section if the generator can demonstrate that the inability to produce the electronic manifest is due exclusively to a technical difficulty with the electronic manifest system for which the generator bears no responsibility.

(b) A generator may participate in the electronic manifest system either by accessing the electronic manifest system from its own electronic equipment, or by accessing the electronic manifest system from portable equipment brought to the generator's site by the transporter who accepts the hazardous waste shipment from the generator for off-site transportation.

(c) Restriction on use of electronic manifests. A generator may prepare an electronic manifest for the tracking of hazardous waste shipments involving any RCRA hazardous waste only if it is known at the time the manifest is originated that all waste handlers named on the manifest participate in the use of the electronic manifest except that:

(1) A generator may sign by hand and retain a paper copy of the manifest signed by hand by the initial transporter, in lieu of executing the generator copy electronically, thereby

enabling the transporter and subsequent waste handlers to execute the remainder of the manifest copies electronically.

(2) [Reserved]

(d) Requirement for one printed copy. To the extent the Hazardous Materials regulation on shipping papers for carriage by public highway requires shippers of hazardous materials to supply a paper document for compliance with 49 CFR § 177.817, a generator originating an electronic manifest must also provide the initial transporter with one printed copy of the electronic manifest.

(e) Special procedures when electronic manifest is unavailable. If a generator has prepared an electronic manifest for a hazardous waste shipment, but the electronic manifest system becomes unavailable for any reason prior to the time that the initial transporter has signed electronically to acknowledge the receipt of the hazardous waste from the generator, then the generator must obtain and complete a paper manifest and if necessary, a continuation sheet (EPA Forms 8700-22 and 8700-22A) in accordance with the manifest instructions and use these paper forms from this point forward in accordance with the requirements of Rule 23 § 262.23.

(f) Special procedures for electronic signature methods undergoing tests. If a generator has prepared an electronic manifest for a hazardous waste shipment, and signs this manifest electronically using an electronic signature method which is undergoing pilot or demonstration tests aimed at demonstrating the practicality or legal dependability of the signature method, then the generator shall also sign with an ink signature the generator/offeree certification on the printed copy of the manifest provided under paragraph (d) of this section.

(g) [Reserved]

(h) Post-receipt manifest data corrections. After facilities have certified to the receipt of hazardous wastes by signing Item 20 of the manifest, any post-receipt data corrections may be submitted at any time by any interested person (e.g., waste handler) named on the manifest. Generators may participate electronically in the post-receipt data corrections process by following the process described in § 264.71(l) of this rule, which applies to corrections made to either paper or electronic manifest records.

§ 262.25 Electronic Manifest Signatures

Electronic signature methods for the e-Manifest system shall:

(a) Be a legally valid and enforceable signature under applicable EPA and other Federal requirements pertaining to electronic signatures; and

(b) Be a method that is designed and implemented in a manner that EPA considers to be as cost-effective and practical as possible for the users of the manifest.

§ 262.26 [Reserved]

§ 262.27 Waste Minimization certification

A generator who initiates a shipment of hazardous waste must certify to one of the following statements in Item 15 of the uniform hazardous waste manifest:

(a) "I am a large quantity generator. I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have

selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment;” or

(b) “I am a small quantity generator. I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.”

Subsection C -- Pre-Transport Requirements Applicable to Small and Large Quantity Generators

§ 262.30 Packaging

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must package the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR Parts 173, 178, and 179.

§ 262.31 Labeling

Before transporting or offering hazardous waste for transportation off-site, a generator must label each package in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172.

§ 262.32 Marking

(a) Before transporting or offering hazardous waste for transportation off-site, a generator must mark each package of hazardous waste in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172;

(b) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must mark each container of 119 gallons or less used in such transportation with the following words and information in accordance with the requirements of 49 CFR 172.304:

(1) HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

(2) Generator's Name and Address ____.

(3) Generator's EPA Identification Number ____.

(4) Manifest Tracking Number ____.

(5) EPA Hazardous Waste Number(s) ____.

c) A generator may use a nationally recognized electronic system, such as bar coding, to identify the EPA Hazardous Waste Number(s), as required by paragraph (b)(5) or paragraph (d).

(d) Lab packs that will be incinerated in compliance with §268.42(c) are not required to be marked with EPA Hazardous Waste Number(s), except D004, D005, D006, D007, D008, D010, and D011, where applicable.

§ 262.33 Placarding

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations for hazardous materials under 49 CFR part 172, Subsection F.

§ 262.34 [Reserved]

§ 262.35 Liquids in landfills prohibition

The placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited. Prior to disposal in a hazardous waste landfill, liquids must meet additional requirements as specified in §§264.314 and 265.314.

Subsection D -- Recordkeeping and Reporting Applicable to Small and Large Quantity Generators

§ 262.40 Recordkeeping

(a) A generator must keep a copy of each manifest signed in accordance with § 262.23(a) for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.

(b) A generator must keep a copy of each Annual Report and Exception Report for a period of at least three years from the due date of the report.

(c) See § 262.11(f) for recordkeeping requirements for documenting hazardous waste determinations.

(d) The periods or retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Director.

§ 262.41 Annual Report

Any person who generated more than 100kg of hazardous waste in any given month during the preceding calendar year in the State of Arkansas must prepare and submit a single copy of an Annual Report to the Director not later than March 1 of each year. The Annual Report must be submitted on forms or in an electronic format furnished or approved by the Division and in accordance with the annual instruction booklet provided by the Division. This requirement also applies to large quantity generators that receive hazardous waste from very small quantity generators pursuant to §262.17(f). The report must cover generator activities during the previous calendar year, and include, at a minimum, the following information:

- (a) The EPA identification number, name, and address of the generator;*
- (b) The calendar year covered by the report;*
- (c) The EPA identification number, name, and address for each offsite treatment, storage, or disposal facility in the United States to which waste was shipped during the year;*

(d) The name and EPA identification number of each transporter used during the reporting year for shipments to a treatment, storage, or disposal facility within the United States;

(e) A description, EPA hazardous waste number (from Section 261, Subsection C or D), and quantity of each hazardous waste generated on-site and either accumulated, treated, stored, or disposed of on-site or shipped offsite to a treatment, storage or disposal facility. This information must also indicate the EPA identification number of each such offsite facility to which waste was shipped, or whether the waste was managed on-site;

(f) A certification by the generator or authorized representative that the report is true, accurate, and correct.

(g) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated;

(h) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(i) A statement signed by the generator or authorized representative certifying that the report is true, accurate, and correct.

(j) Exports of hazardous waste to foreign countries are not required to be reported on the Biennial Report form. A separate annual report requirement is set forth at § 262.83(g) for hazardous waste exporters.

§ 262.42 Exception reporting

(a)(1) A generator of 1000 kilograms or greater of hazardous waste in a calendar month, or greater than 1 kg of acute hazardous waste listed in § 261.31. or § 261.33(e) in a calendar month, who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste.

(2) A generator of 1000 kilograms or greater of hazardous waste in a calendar month, or greater than 1 kg of acute hazardous waste listed in § 261.31. or § 261.33(e) in a calendar month, must submit an Exception Report to the Director if he has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must include:

(i) A legible copy of the manifest for which the generator does not have confirmation of delivery;

(ii) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

(b) A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 60 days of the date the waste was accepted by the initial transporter must submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the Director.

Note: The submission to the Division need only be a handwritten or typed note on the manifest itself, or on an attached sheet of paper, stating that the return copy was not received.

(c) For rejected shipments of hazardous waste or container residues contained in non-empty containers that are forwarded to an alternate facility by a designated facility using a new manifest (following the procedures of Section 264.72(e)(1) through (6) or Section 265.72(e)(1) through (6)) of this rule), the generator must comply with the requirements of paragraph (a) or (b) of this section, as applicable, for the shipment forwarding the material from the designated facility to the alternate facility instead of for the shipment from the generator to the designated facility. For purposes of paragraph (a) or (b) of this section for a shipment forwarding such waste to an alternate facility by a designated facility:

(1) The copy of the manifest received by the generator must have the handwritten signature of the owner or operator of the alternate facility in place of the signature of the owner or operator of the designated facility, and

(2) The 35/45/60-day timeframes begin the date the waste was accepted by the initial transporter forwarding the hazardous waste shipment from the designated facility to the alternate facility.

§ 262.43 Additional reporting

The Director, as he deems necessary, may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in § 261.

§ 262.44 [Reserved]

Subsection E [Reserved]

§ 262.50 [Reserved]

§ 262.51 [Reserved]

§ 262.52 [Reserved]

§ 262.53 [Reserved]

§ 262.54 [Reserved]

§ 262.55 [Reserved]

§ 262.56 [Reserved]

§ 262.57 [Reserved]

§ 262.58 [Reserved]

Subsection F [Reserved]

§ 262.60 [Reserved]

Subsection G – Farmers

§ 262.70 Farmers

A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in this section or other standards in §§ 264, 265, 266, or 270 for those wastes provided he triple rinses each emptied pesticide container in accordance with § 261.7(b)(3) and disposes of the pesticide residues on his own farm in a manner consistent with the disposal instructions on the pesticide label.

Subsection H—Trans-boundary Movements of Hazardous Waste for Recovery and Disposal

§ 262.80 Applicability

- (a) The requirements of this subsection apply to transboundary movements of hazardous waste.
- (b) Any person (including exporter, importer, disposal facility operator, or recovery facility operator) who mixes two or more wastes (including hazardous and non-hazardous wastes) or otherwise subjects two or more wastes (including hazardous and nonhazardous wastes) to physical or chemical transformation operations, and thereby creates a new hazardous waste, becomes a generator and assumes all subsequent generator duties under RCRA and any exporter duties, if applicable, under this subsection.

§ 262.81 Definitions

In addition to the definitions set forth at § 260.10 of this rule, the following definitions apply to this subsection.

“Competent authority” means the regulatory authority or authorities of concerned countries having jurisdiction over trans-boundary movements of wastes.

“Countries concerned” means the countries of export or import and any countries of transit.

“Country of export” means any country from which a transboundary movement of hazardous wastes is planned to be initiated or is initiated.

“Country of import” means any country to which a transboundary movement of hazardous wastes is planned or takes place for the purpose of submitting the wastes to recovery or disposal operations therein.

“Country of transit” means any country other than the country of export or country of import across which a transboundary movement of hazardous wastes is planned or takes place.

“Disposal operations” means activities which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternate uses, which include:

(1) D1 Release or Deposit into or onto land, other than by any of operations D2 through D5 or D12.

(2) D2 Land treatment, such as biodegradation of liquids or sludges in soils.

(3) D3 Deep injection, such as injection into wells, salt domes or naturally occurring repositories.

(4) D4 Surface impoundment, such as placing of liquids or sludges into pits, ponds or lagoons.

(5) D5 Specially engineered landfill, such as placement into lined discrete cells which are capped and isolated from one another and the environment.

(6) D6 Release into a water body other than a sea or ocean, and other than by operation D4.

(7) D7 Release into a sea or ocean, including sea-bed insertion, other than by operation D4.

(8) D8 Biological treatment not specified elsewhere in operations D1 through D12, which results in final compounds or mixtures which are discarded by means of any of operations D1 through D12.

(9) D9 Physical or chemical treatment not specified elsewhere in operations D1 through D12, such as evaporation, drying, calcination, neutralization, or precipitation, which results in final compounds or mixtures which are discarded by means of any of operations D1 through D12.

(10) D10 Incineration on land.

(11) D11 Incineration at sea.

(12) D12 Permanent storage.

(13) D13 Blending or mixing, prior to any of operations D1 through D12.

(14) D14 Repackaging, prior to any of operations D1 through D13.

(15) D15 (or DC17 for transboundary movements with Canada only) Interim Storage, prior to any of operations D1 through D12.

(16) DC15 Release, including the venting of compressed or liquified gases, or treatment, other than by any of operations D1 to D12 (for transboundary movements with Canada only).

(17) DC16 Testing of a new technology to dispose of a hazardous waste (for transboundary movements with Canada only).

“EPA Acknowledgment of Consent” (AOC) means the letter EPA sends to the exporter documenting the specific terms of the country of import’s consent and the country(ies) of transit’s consent(s). The AOC meets the definition of an export license in U.S. Census Bureau regulations 15 CFR 30.1.

“Export” means the transportation of hazardous waste from a location under the jurisdiction of the United States to a location under the jurisdiction of another country, or a location not under the jurisdiction of any country, for the purposes of recovery or disposal operations therein.

“Exporter” also known as primary exporter on the RCRA hazardous waste manifest, means the person domiciled in the United States who is required to originate the movement document in accordance with § 262.83(d) or the manifest for a shipment of hazardous waste in accordance with subsection B of this section, or equivalent State provision, which specifies a foreign receiving facility as the facility to which the hazardous wastes will be sent, or any recognized trader who proposes export of the hazardous wastes for recovery or disposal operations in the country of import.

“Foreign exporter” means the person under the jurisdiction of the country of export who has, or will have at the time the planned transboundary movement commences, possession or other

forms of legal control of the hazardous wastes and who proposes shipment of the hazardous wastes to the United States for recovery or disposal operations.

“Foreign importer” means the person to whom possession or other form of legal control of the hazardous waste is assigned at the time the exported hazardous waste is received in the country of import.

“Foreign receiving facility” means a facility which, under the importing country’s applicable domestic law, is operating or is authorized to operate in the country of import to receive the hazardous wastes and to perform recovery or disposal operations on them.

“Import” means the transportation of hazardous waste from a location under the jurisdiction of another country to a location under the jurisdiction of the United States for the purposes of recovery or disposal operations therein.

“Importer” means the person to whom possession or other form of legal control of the hazardous waste is assigned at the time the imported hazardous waste is received in the United States.

“OECD” means the Organization for Economic Cooperation and Development.

“OECD area” means all land or marine areas under the national jurisdiction of any OECD member country. When the rules refer to shipments to or from an OECD member country, this means “OECD area.”

“OECD Member country” means the countries that are members of the OECD and participate in the Amended 2001 OECD Decision. (EPA provides a list of OECD Member countries at <https://www.epa.gov/hwgenerators/international-agreements-transboundary-shipments-waste>).

“Recognized trader” means a person who, with appropriate authorization of concerned countries, acts in the role of principal to purchase and subsequently sell wastes; this person has legal control of such wastes from time of purchase to time of sale; such a person may act to arrange and facilitate trans-boundary movements of wastes destined for recovery operations.

“Receiving facility” means a U.S. facility which, under RCRA and other applicable domestic laws, is operating or is authorized to operate to receive hazardous wastes and to perform recovery or disposal operations on them.

“Recovery operations” means activities leading to resource recovery, recycling, reclamation, direct re-use or alternative uses, which include:

- (1) R1 Use as a fuel (other than in direct incineration) or other means to generate energy.
- (2) R2 Solvent reclamation/regeneration.
- (3) R3 Recycling/reclamation of organic substances which are not used as solvents.
- (4) R4 Recycling/reclamation of metals and metal compounds.
- (5) R5 Recycling/reclamation of other inorganic materials.
- (6) R6 Regeneration of acids or bases.
- (7) R7 Recovery of components used for pollution abatement.
- (8) R8 Recovery of components used from catalysts.
- (9) R9 Used oil re-refining or other reuses of previously used oil.
- (10) R10 Land treatment resulting in benefit to agriculture or ecological improvement.
- (11) R11 Uses of residual materials obtained from any of the operations numbered R1 through R10 or RC14 (for transboundary shipments with Canada only).
- (12) R12 Exchange of wastes for submission to any of the operations numbered R1 through R11 or RC14 (for transboundary shipments with Canada only).

(13) R13 Accumulation of material intended for any operation numbered R1 through R12 or RC14 (for transboundary shipments with Canada only).

(14) RC14 Recovery or regeneration of a substance or use or re-use of a recyclable material, other than by any of operations R1 to R10 (for transboundary shipments with Canada only).

(15) RC15 Testing of a new technology to recycle a hazardous recyclable material (for transboundary shipments with Canada only).

(16) RC16 Interim storage prior to any of operations R1 to R11 or RC14 (for transboundary shipments with Canada only).

“Transboundary movement” means any movement of hazardous wastes from an area under the national jurisdiction of one country to an area under the national jurisdiction of another country.

§ 262.82 General conditions

(a) *Scope.* The level of control for exports and imports of waste is indicated by assignment of the waste to either a list of wastes subject to the Green control procedures or a list of wastes subject to the Amber control procedures and by the national procedures of the United States, as defined in § 262.80(a). The OECD Green and Amber lists are incorporated by reference in § 260.11.

(1) Green list wastes

(i) Green wastes that are not hazardous waste are subject to existing controls normally applied to commercial transactions and are not subject to the requirements of this section.

(ii) Green wastes that are hazardous waste are subject to the requirements of this section.

(2) Amber list wastes

(i) Amber wastes that are hazardous waste are subject to the requirements of this section, even if they are imported to or exported from a country that does not consider the waste to be hazardous or control the transboundary shipment as a hazardous waste import or export.

(A) For exports, the exporter must comply with § 262.83.

(B) For imports, the recovery or disposal facility and the importer must comply with § 262.84.

(ii) Amber wastes that are not hazardous wastes, but are considered hazardous by the other country are subject to the Amber control procedures in the country that considers the waste hazardous, and are not subject to the requirements of this section. All responsibilities of the importer or exporter shift to the foreign importer or foreign exporter in the other country that considers the waste hazardous unless the parties make other arrangements through contracts.

Note to Paragraph (a)(2): Some Amber list wastes are not listed or otherwise identified as hazardous under RCRA, and therefore are not subject to the requirements of this section. Regardless of the status of the waste under RCRA, however, other Federal environmental statutes (e.g., the Toxic Substances Control Act) restrict certain waste imports or exports. Such restrictions continue to apply with regard to this section.

(3) Mixtures of wastes.

(i) A Green waste that is mixed with one or more other Green wastes such that the resulting mixture is not hazardous waste is not subject to the requirements of this section.

Note to Paragraph (a)(3)(i): The regulated community should note that some countries may require, by domestic law, that mixtures of different Green wastes be subject to the Amber control procedures.

(ii) A Green waste that is mixed with one or more Amber wastes, in any amount, *de minimis* or otherwise, or a mixture of two or more Amber wastes, such that the resulting waste mixture is hazardous waste is subject to the requirements of this section.

Note to Paragraph (a)(3)(ii): The regulated community should note that some countries may require, by domestic law, that a mixture of a Green waste and more than a *de minimis* amount of an Amber waste or a mixture of two or more Amber wastes be subject to the Amber control procedures.

(4) Wastes not yet assigned to an OECD waste list are eligible for trans-boundary movements, as follows:

(i) If such wastes are hazardous wastes, such wastes are subject to the requirements of this section.

(ii) If such wastes are not hazardous, such wastes are not subject to the requirements of this subsection.

(b) *General conditions applicable to trans-boundary movements of hazardous waste:*

(1) The hazardous waste must be destined for recovery or disposal operations at a facility that, under applicable domestic law, is operating or is authorized to operate in the country of import;

(2) The trans-boundary movement must be in compliance with applicable international transport agreements; and

Note to Paragraph (b)(2): These international agreements include, but are not limited to, the Chicago Convention (1944), ADR (1957), ADN (1970), MARPOL Convention (1973/1978), SOLAS Convention (1974), IMDG Code (1985), COTIF (1985), and RID (1985).

(3) Any transit of hazardous waste through one or more countries must be conducted in compliance with all applicable international and national laws and rules.

(c) Duty to return wastes subject to the Amber control procedures during transit through the United States. When a transboundary movement of hazardous wastes transiting the United States and subject to the Amber control procedures does not comply with the requirements of the notification and movement documents or otherwise constitutes illegal shipment, and if alternative arrangements cannot be made to recover or dispose of these wastes in an environmentally sound manner, the waste must be returned to the country of export. The U.S. transporter must inform EPA at the specified mailing address in paragraph (e) of this section of the need to return the shipment. EPA will then inform the competent authority of the country of export, citing the reason(s) for returning the waste. The U.S. transporter must complete the return within ninety (90) days from the time EPA informs the country of export of the need to return the waste, unless informed in writing by EPA of another timeframe agreed to by the concerned countries.

(d) Laboratory analysis exemption. Export or import of a hazardous waste sample is exempt from the requirements of this subpart if the sample is destined for laboratory analysis to assess its physical or chemical characteristics, or to determine its suitability for recovery or disposal operations, does not exceed twenty-five kilograms (25 kg) in quantity, is appropriately packaged and labeled, and complies with the conditions of § 261.4(d) or (e).

(e) EPA Address for submittals by postal mail or hand delivery. Submittals required in this subsection to be made by postal mail or hand delivery should be sent to the following addresses:

(1) For postal mail delivery, the Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460.

(2) For hand-delivery, the Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, Environmental Protection Agency, William Jefferson Clinton South Bldg., Room 6144, 12th St. and Pennsylvania Ave., NW., Washington, DC 20004.

§ 262.83 Exports of hazardous waste

(a) General export requirements. Except as provided in paragraphs (a)(5) and (6) of this section, exporters that have received an AOC from EPA before December 31, 2016 are subject to that approval and the requirements listed in the AOC that existed at the time of that approval until such time the approval period expires. All other exports of hazardous waste are prohibited unless:

(1) The exporter complies with the contract requirements in paragraph (f) of this section;

(2) The exporter complies with the notification requirements in paragraph (b) of this section;

(3) The exporter receives an AOC from EPA documenting consent from the countries of import and transit (and original country of export if exporting previously imported hazardous waste);

(4) The exporter ensures compliance with the movement documents requirements in paragraph (d) of this section;

(5) The exporter ensures compliance with the manifest instructions for export shipments in paragraph (c) of this section; and

(6) The exporter or a U.S. authorized agent:

(i) For shipments initiated prior to the AES filing compliance date, does one of the following:

(A) Submits Electronic Export Information (EEI) for each shipment to the Automated Export System (AES) or its successor system, under the International Trade Data System (ITDS) platform, in accordance with 15 CFR 30.4(b), and includes the following items in the EEI, along with the other information required under 15 CFR 30.6:

(1) EPA license code;

(2) Commodity classification code for each hazardous waste per 15 CFR 30.6(a)(12);

(3) EPA consent number for each hazardous waste;

(4) Country of ultimate destination code per 15 CFR 30.6(a)(5);

(5) Date of export per 15 CFR 30.6(a)(2);

(6) RCRA hazardous waste manifest tracking number, if required;

(7) Quantity of each hazardous waste in shipment and units for reported quantity, if required reporting units established by value for the reported commodity classification number are in units of weight or volume per 15 CFR 30.6(a)(15); or

(8) EPA net quantity for each hazardous waste reported in units of kilograms if solid or in units of liters if liquid, if required reporting units

established by value for the reported commodity classification number are not in units of weight or volume.

(B) Complies with a paper-based process by:

(1) Attaching paper documentation of consent (i.e., a copy of the EPA Acknowledgment of Consent, international movement document) to the manifest, or shipping papers if a manifest is not required, which must accompany the hazardous waste shipment. For exports by rail or water (bulk shipment), the primary exporter must provide the transporter with the paper documentation of consent which must accompany the hazardous waste but which need not be attached to the manifest except that for exports by water (bulk shipment) the primary exporter must attach the paper documentation of consent to the shipping paper.

(2) Providing the transporter with an additional copy of the manifest, and instructing the transporter via mail, email or fax to deliver that copy to the U.S. Customs official at the point the hazardous waste leaves the United States in accordance with § 263.20(g)(4)(ii).

(ii) For shipments initiated on or after the AES filing compliance date of December 31, 2017, submits Electronic Export Information (EEI) for each shipment to the Automated Export System (AES) or its successor system, under the International Trade Data System (ITDS) platform, in accordance with 15 CFR 30.4(b), and includes the following items in the EEI, along with the other information required under 15 CFR 30.6:

(A) EPA license code;

(B) Commodity classification code for each hazardous waste per 15 CFR 30.6(a)(12);

(C) EPA consent number for each hazardous waste;

(D) Country of ultimate destination code per 15 CFR 30.6(a)(5);

(E) Date of export per 15 CFR 30.6(a)(2);

(F) RCRA hazardous waste manifest tracking number, if required;

(G) Quantity of each hazardous waste in shipment and units for reported quantity, if required reporting units established by value for the reported commodity classification number are in units of weight or volume per 15 CFR 30.6(a)(15); or

(H) EPA net quantity for each hazardous waste reported in units of kilograms if solid or in units of liters if liquid, if required reporting units established by value for the reported commodity classification number are not in units of weight or volume.

(b) Notifications— (1) General notifications. At least sixty (60) days before the first shipment of hazardous waste is expected to leave the United States, the exporter must provide notification in English to EPA of the proposed transboundary movement. Notifications must be submitted electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The notification may cover up to one year of shipments of one or more hazardous wastes being sent to the same recovery or disposal facility, and must include all of the following information:

(i) Exporter name and EPA identification number, address, telephone, fax numbers, and e-mail address;

(ii) Foreign receiving facility name, address, telephone, fax numbers, e-mail address, technologies employed, and the applicable recovery or disposal operations as defined in § 262.81;

(iii) Foreign importer name (if not the owner or operator of the foreign receiving facility), address, telephone, fax numbers, and e-mail address;

(iv) Intended transporter(s) and/or their agent(s); address, telephone, fax, and e-mail address;

(v) "U.S." as the country of export name, "USA01" as the relevant competent authority code, and the intended U.S. port(s) of exit;

(vi) The ISO standard 3166 country name 2-digit code, OECD/Basel competent authority code, and the ports of entry and exit for each country of transit;

(vii) The ISO standard 3166 country name 2-digit code, OECD/Basel competent authority code, and port of entry for the country of import;

(viii) Statement of whether the notification covers a single shipment or multiple shipments;

(ix) Start and End Dates requested for transboundary movements;

(x) Means of transport planned to be used;

(xi) Description(s) of each hazardous waste, including whether each hazardous waste is regulated universal waste under section 273, or the state equivalent, spent lead-acid batteries being exported for recovery of lead under section 266, subsection G, or the state equivalent, or industrial ethyl alcohol being exported for reclamation under § 261.6(a)(3)(i), or the state equivalent, estimated total quantity of each waste in either metric tons or cubic meters, the applicable RCRA waste code(s) for each hazardous waste, the applicable OECD waste code from the lists incorporated by reference in § 260.11, and the United Nations/U.S. Department of Transportation (DOT) ID number for each waste;

(xii) Specification of the recovery or disposal operation(s) as defined in § 262.81.

(xiii) Certification/Declaration signed by the exporter that states:

I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally enforceable written contractual obligations have been entered into and that any applicable insurance or other financial guarantee is or shall be in force covering the transboundary movement.

Name:

Signature:

Date:

(2) Exports to pre-consented recovery facilities in OECD Member countries. If the recovery facility is located in an OECD member country and has been pre-consented by the competent authority of the OECD member country to recover the waste sent by exporters located in other OECD member countries, the notification may cover up to three years of shipments. Notifications proposing export to a pre-consented facility in an OECD member country must include all information listed in paragraphs (b)(1)(i) through (b)(1)(xiii) of this section and additionally state that the facility is pre-consented. Exporters must submit the notification to EPA using the allowable methods listed in paragraph (b)(1) of this section at least ten days before the first shipment is expected to leave the United States.

(3) Notifications listing interim recycling operations or interim disposal operations. If the foreign receiving facility listed in paragraph (b)(1)(ii) of this section will engage in any of

the interim recovery operations R12 or R13 or interim disposal operations D13 through D15, or in the case of transboundary movements with Canada, any of the interim recovery operations R12, R13, or RC16, or interim disposal operations D13 to D14, or DC17, the notification submitted according to paragraph (b)(1) of this section must also include the final foreign recovery or disposal facility name, address, telephone, fax numbers, e-mail address, technologies employed, and which of the applicable recovery or disposal operations R1 through R11 and D1 through D12, or in the case of transboundary movements with Canada, which of the applicable recovery or disposal operations R1 through R11, RC14 to RC15, D1 through D12, and DC15 to DC16 will be employed at the final foreign recovery or disposal facility. The recovery and disposal operations in this paragraph are defined in § 262.81.

(4) Renotifications. When the exporter wishes to change any of the information specified on the original notification (including increasing the estimate of the total quantity of hazardous waste specified in the original notification or adding transporters), the exporter must submit a renotification of the changes to EPA using the allowable methods in paragraph (b)(1) of this section. Any shipment using the requested changes cannot take place until the countries of import and transit consent to the changes and the exporter receives an EPA AOC letter documenting the countries' consents to the changes.

(5) For cases where the proposed country of import and recovery or disposal operations are not covered under an international agreement to which both the United States and the country of import are parties, EPA will coordinate with the Department of State to provide the complete notification to country of import and any countries of transit. In all other cases, EPA will provide the notification directly to the country of import and any countries of transit. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of paragraph (b)(1)(i) through (b)(1)(xiii) of this section.

(6) Where the countries of import and transit consent to the proposed transboundary movement(s) of the hazardous waste(s), EPA will forward an EPA AOC letter to the exporter documenting the countries' consents. Where any of the countries of import and transit objects to the proposed transboundary movement(s) of the hazardous waste or withdraws a prior consent, EPA will notify the exporter.

(7) Export of hazardous wastes for recycling or disposal operations that were originally imported into the United States for recycling or disposal operations in a third country is prohibited unless an exporter in the United States complies with the export requirements in § 262.83, including providing notification to EPA in accordance with paragraph (b)(1) of this section. In addition to listing all required information in paragraphs (b)(1)(i) through (b)(1)(xiii) of this section, the exporter must provide the original consent number issued for the initial import of the wastes in the notification, and receive an AOC from EPA documenting the consent of the competent authorities in new country of import, the original country of export, and any transit countries prior to re-export.

(8) Upon request by EPA, the exporter must furnish to EPA any additional information which the country of import requests in order to respond to a notification.

(c) RCRA manifest instructions for export shipments. The exporter must comply with the manifest requirements of §§ 262.20 through 262.23 except that:

(1) In lieu of the name, site address and EPA ID number of the designated permitted facility, the exporter must enter the name and site address of the foreign receiving facility;

(2) In the International Shipments block, the exporter must check the export box and enter the U.S. port of exit (city and State) from the United States.

(3) The exporter must list the consent number from the AOC for each hazardous waste listed on the manifest, matched to the relevant list number for the hazardous waste from block 9b. If additional space is needed, the exporter should use a Continuation Sheet(s) (EPA Form 8700–22A).

(4) The exporter may obtain the manifest from any source that is registered with the U.S. EPA as a supplier of manifests (e.g., states, waste handlers, and/or commercial forms printers).

(d) Movement document requirements for export shipments.

(1) All exporters must ensure that a movement document meeting the conditions of paragraph (d)(2) of this section accompanies each transboundary movement of hazardous wastes from the initiation of the shipment until it reaches the foreign receiving facility, including cases in which the hazardous waste is stored and/or sorted by the foreign importer prior to shipment to the foreign receiving facility, except as provided in paragraphs (d)(1)(i) and (ii) of this section.

(i) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the exporter must forward the movement document to the last water (bulk shipment) transporter to handle the hazardous waste in the United States if exported by water.

(ii) For rail shipments of hazardous waste within the United States which start from the company originating the export shipment, the exporter must forward the movement document to the next non-rail transporter, if any, or the last rail transporter to handle the hazardous waste in the United States if exported by rail.

(2) The movement document must include the following paragraphs (d)(2)(i) through (xv) of this section:

(i) The corresponding consent number(s) and hazardous waste number(s) for the listed hazardous waste from the relevant EPA AOC(s);

(ii) The shipment number and the total number of shipments from the EPA AOC;

(iii) Exporter name and EPA identification number, address, telephone, fax numbers, and e-mail address;

(iv) Foreign receiving facility name, address, telephone, fax numbers, e-mail address, technologies employed, and the applicable recovery or disposal operations as defined in § 262.81;

(v) Foreign importer name (if not the owner or operator of the foreign receiving facility), address, telephone, fax numbers, and e-mail address;

(vi) Description(s) of each hazardous waste, quantity of each hazardous waste in the shipment, applicable RCRA hazardous waste code(s) for each hazardous waste, applicable OECD waste code for each hazardous waste from the lists incorporated by reference in § 260.11, and the United Nations/U.S. Department of Transportation (DOT) ID number for each hazardous waste;

(vii) Date movement commenced;

(viii) Name (if not exporter), address, telephone, fax numbers, and e-mail of company originating the shipment;

(ix) Company name, EPA ID number, address, telephone, fax, and e-mail address of all transporters;

- (x) Identification (license, registered name or registration number) of means of transport, including types of packaging;
- (xi) Any special precautions to be taken by transporter(s);
- (xii) Certification/declaration signed and dated by the exporter that the information in the movement document is complete and correct;
- (xiii) Appropriate signatures for each custody transfer (e.g., transporter, importer, and owner or operator of the foreign receiving facility);
- (xiv) Each U.S. person that has physical custody of the hazardous waste from the time the movement commences until it arrives at the foreign receiving facility must sign the movement document (e.g., transporter, foreign importer, and owner or operator of the foreign receiving facility); and
- (xv) As part of the contract requirements per paragraph (f) of this section, the exporter must require that the foreign receiving facility send a copy of the signed movement document to confirm receipt within three working days of shipment delivery to the exporter, to the competent authorities of the countries of import and transit, and for shipments occurring on or after the electronic import-export reporting compliance date, the exporter must additionally require that the foreign receiving facility send a copy to EPA at the same time using the allowable methods listed in paragraph (b)(1) of this section.

(e) Duty to return or re-export hazardous wastes. When a transboundary movement of hazardous wastes cannot be completed in accordance with the terms of the contract or the consent(s) and alternative arrangements cannot be made to recover or dispose of the waste in an environmentally sound manner in the country of import, the exporter must ensure that the hazardous waste is returned to the United States or re-exported to a third country. If the waste must be returned, the exporter must provide for the return of the hazardous waste shipment within ninety days from the time the country of import informs EPA of the need to return the waste or such other period of time as the concerned countries agree. In all cases, the exporter must submit an exception report to EPA in accordance with paragraph (h) of this section.

(f) Export contract requirements.

(1) Exports of hazardous waste are prohibited unless they occur under the terms of a valid written contract, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). Such contracts or equivalent arrangements must be executed by the exporter, foreign importer (if different from the foreign receiving facility), and the owner or operator of the foreign receiving facility, and must specify responsibilities for each. Contracts or equivalent arrangements are valid for the purposes of this section only if persons assuming obligations under the contracts or equivalent arrangements have appropriate legal status to conduct the operations specified in the contract or equivalent arrangements.

(2) Contracts or equivalent arrangements must specify the name and EPA ID number, where available, of paragraph (f)(2)(i) through (iv) of this section:

- (i) The company from where each export shipment of hazardous waste is initiated;
- (ii) Each person who will have physical custody of the hazardous wastes;
- (iii) Each person who will have legal control of the hazardous wastes; and
- (iv) The foreign receiving facility.

(3) Contracts or equivalent arrangements must specify which party to the contract will assume responsibility for alternate management of the hazardous wastes if their disposition

cannot be carried out as described in the notification of intent to export. In such cases, contracts must specify that:

- (i) The transporter or foreign receiving facility having actual possession or physical control over the hazardous wastes will immediately inform the exporter, EPA, and either the competent authority of the country of transit or the competent authority of the country of import of the need to make alternate management arrangements; and

- (ii) The person specified in the contract will assume responsibility for the adequate management of the hazardous wastes in compliance with applicable laws and rules including, if necessary, arranging the return of hazardous wastes and, as the case may be, shall provide the notification for re-export to the competent authority in the country of import and include the equivalent of the information required in paragraph (b)(1) of this section, the original consent number issued for the initial export of the hazardous wastes in the notification, and obtain consent from EPA and the competent authorities in the new country of import and any transit countries prior to re-export.

(4) Contracts must specify that the foreign receiving facility send a copy of the signed movement document to confirm receipt within three working days of shipment delivery to the exporter and to the competent authorities of the countries of import and transit. For contracts that will be in effect on or after the electronic import-export reporting compliance date, the contracts must additionally specify that the foreign receiving facility send a copy to EPA at the same time using the allowable methods listed in paragraph (b)(1) of this section on or after that date.

(5) Contracts must specify that the foreign receiving facility shall send a copy of the signed and dated confirmation of recovery or disposal, as soon as possible, but no later than thirty days after completing recovery or disposal on the waste in the shipment and no later than one calendar year following receipt of the waste, to the exporter and to the competent authority of the country of import. For contracts that will be in effect on or after the electronic import-export reporting compliance date, the contracts must additionally specify that the foreign receiving facility send a copy to EPA at the same time using the allowable methods listed in paragraph (b)(1) of this section on or after that date.

(6) Contracts must specify that the foreign importer or the foreign receiving facility that performed interim recycling operations R12, R13, or RC16, or interim disposal operations D13 through D15 or DC17, (recovery and disposal operations defined in § 262.81) as appropriate, will:

- (i) Provide the notification required in paragraph (f)(3)(ii) of this section prior to any re-export of the hazardous wastes to a final foreign recovery or disposal facility in a third country; and

- (ii) Promptly send copies of the confirmation of recovery or disposal that it receives from the final foreign recovery or disposal facility within one year of shipment delivery to the final foreign recovery or disposal facility that performed one of recovery operations R1 through R11, or RC16, or one of disposal operations D1 through D12, DC15 or DC16 to the competent authority of the country of import. For contracts that will be in effect on or after the electronic import-export reporting compliance date, the contracts must additionally specify that the foreign facility send copies to EPA at the same time using the allowable method listed in paragraph (b)(1) of this section on or after that date.

(7) Contracts or equivalent arrangements must include provisions for financial guarantees, if required by the competent authorities of the country of import and any countries of transit, in accordance with applicable national or international law requirements.

Note to Paragraph (f)(7): Financial guarantees so required are intended to provide for alternate recycling, disposal or other means of sound management of the wastes in cases where arrangements for the shipment and the recovery operations cannot be carried out as foreseen. The United States does not require such financial guarantees at this time; however, some OECD Member countries and other foreign countries do. It is the responsibility of the exporter to ascertain and comply with such requirements; in some cases, persons or facilities located in those OECD Member countries or other foreign countries may refuse to enter into the necessary contracts absent specific references or certifications to financial guarantees.

(8) Contracts or equivalent arrangements must contain provisions requiring each contracting party to comply with all applicable requirements of this subpart.

(9) Upon request by EPA, U.S. exporters, importers, or recovery facilities must submit to EPA copies of contracts, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity).

(g) Annual reports. The exporter shall file an annual report with EPA no later than March 1 of each year summarizing the types, quantities, frequency, and ultimate destination of all such hazardous waste exported during the previous calendar year. Prior to one year after the AES filing compliance date, the exporter must mail or hand-deliver annual reports to EPA using one of the addresses specified in § 262.82(e), or submit to EPA using the allowable methods specified in paragraph (b)(1) of this section if the exporter has electronically filed EPA information in AES, or its successor system, per paragraph (a)(6)(i)(A) of this section for all shipments made the previous calendar year. Subsequently, the exporter must submit annual reports to EPA using the allowable methods specified in paragraph (b)(1) of this section. The annual report must include all of the following paragraphs (g)(1) through (6) of this section specified as follows:

(1) The EPA identification number, name, and mailing and site address of the exporter filing the report;

(2) The calendar year covered by the report;

(3) The name and site address of each foreign receiving facility;

(4) By foreign receiving facility, for each hazardous waste exported:

(i) A description of the hazardous waste;

(ii) The applicable EPA hazardous waste code(s) (from 40 CFR part 261, subpart C or D) for each waste;

(iii) The applicable waste code from the appropriate OECD waste list incorporated by reference in 40 CFR 260.11;

(iv) The applicable DOT ID number;

(v) The name and U.S. EPA ID number (where applicable) for each transporter used over the calendar year covered by the report; and

(vi) The consent number(s) under which the hazardous waste was shipped, and for each consent number, the total amount of the hazardous waste and the number of shipments exported during the calendar year covered by the report;

(5) In even numbered years, for each hazardous waste exported, except for hazardous waste produced by exporters of greater than 100kg but less than 1,000kg in a calendar month, and except for hazardous waste for which information was already provided pursuant to § 262.41:

(i) A description of the efforts undertaken during the year to reduce the volume and toxicity of the waste generated; and

(ii) A description of the changes in volume and toxicity of the waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984; and

(6) A certification signed by the exporter that states: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(h) Exception reports.

(1) The exporter must file an exception report in lieu of the requirements of § 262.42 (if applicable) with EPA if any of the following occurs:

(i) The exporter has not received a copy of the RCRA hazardous waste manifest (if applicable) signed by the transporter identifying the point of departure of the hazardous waste from the United States, within forty-five (45) days from the date it was accepted by the initial transporter, in which case the exporter must file the exception report within the next thirty (30) days;

(ii) The exporter has not received a written confirmation of receipt from the foreign receiving facility in accordance with paragraph (d) of this section within ninety (90) days from the date the waste was accepted by the initial transporter in which case the exporter must file the exception report within the next thirty (30) days; or

(iii) The foreign receiving facility notifies the exporter, or the country of import notifies EPA, of the need to return the shipment to the U.S. or arrange alternate management, in which case the exporter must file the exception report within thirty (30) days of notification, or one (1) day prior to the date the return shipment commences, whichever is sooner.

(2) Prior to the electronic import-export reporting compliance date, exception reports must be mailed or hand delivered to EPA using the addresses listed in § 262.82(e). Subsequently, exception reports must be submitted to EPA using the allowable methods listed in paragraph (b)(1) of this section.

(i) Recordkeeping.

(1) The exporter shall keep the following records in paragraphs (i)(1)(i) through (v) of this section and provide them to EPA or authorized state personnel upon request:

(i) A copy of each notification of intent to export and each EPA AOC for a period of at least three (3) years from the date the hazardous waste was accepted by the initial transporter;

(ii) A copy of each annual report for a period of at least three (3) years from the due date of the report;

(iii) A copy of any exception reports and a copy of each confirmation of receipt (i.e., movement document) sent by the foreign receiving facility to the exporter for at least three (3) years from the date the hazardous waste was accepted by the initial transporter; and

(iv) A copy of each confirmation of recovery or disposal sent by the foreign receiving facility to the exporter for at least three (3) years from the date that the

foreign receiving facility completed interim or final processing of the hazardous waste shipment.

(v) A copy of each contract or equivalent arrangement established per § 262.85 for at least three (3) years from the expiration date of the contract or equivalent arrangement.

(2) Exporters may satisfy these recordkeeping requirements by retaining electronically submitted documents in the exporter's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No exporter may be held liable for the inability to produce such documents for inspection under this section if the exporter can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system for which the exporter bears no responsibility.

(3) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

§ 262.84 Imports of hazardous waste

(a) General import requirements.

(1) With the exception of paragraph (a)(5) of this section, importers of shipments covered under a consent from EPA to the country of export issued before December 31, 2016 are subject to that approval and the requirements that existed at the time of that approval until such time the approval period expires. Otherwise, any other person who imports hazardous waste from a foreign country into the United States must comply with the requirements of this part and the special requirements of this section.

(2) In cases where the country of export does not require the foreign exporter to submit a notification and obtain consent to the export prior to shipment, the importer must submit a notification to EPA in accordance with paragraph (b) of this section.

(3) The importer must comply with the contract requirements in paragraph (f) of this section.

(4) The importer must ensure compliance with the movement documents requirements in paragraph (d) of this section; and

(5) The importer must ensure compliance with the manifest instructions for import shipments in paragraph (c) of this section.

(b) Notifications. In cases where the competent authority of the country of export does not regulate the waste as hazardous waste and, thus, does not require the foreign exporter to submit to it a notification proposing export and obtain consent from EPA and the competent authorities for the countries of transit, but EPA does regulate the waste as hazardous waste:

(1) The importer is required to provide notification in English to EPA of the proposed transboundary movement of hazardous waste at least sixty (60) days before the first shipment is expected to depart the country of export. Notifications submitted prior to the electronic import-export reporting compliance date must be mailed or hand delivered to EPA at the addresses specified in § 262.82(e). Notifications submitted on or after the electronic import-export reporting compliance date must be submitted electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The

notification may cover up to one year of shipments of one or more hazardous wastes being sent from the same foreign exporter, and must include all of the following information:

- (i) Foreign exporter name, address, telephone, fax numbers, and e-mail address;
- (ii) Receiving facility name, EPA ID number, address, telephone, fax numbers, e-mail address, technologies employed, and the applicable recovery or disposal operations as defined in § 262.81;
- (iii) Importer name (if not the owner or operator of the receiving facility), EPA ID number, address, telephone, fax numbers, and e-mail address;
- (iv) Intended transporter(s) and/or their agent(s); address, telephone, fax, and e-mail address;
- (v) “U.S.” as the country of import, “USA01” as the relevant competent authority code, and the intended U.S. port(s) of entry;
- (vi) The ISO standard 3166 country name 2-digit code, OECD/Basel competent authority code, and the ports of entry and exit for each country of transit;
- (vii) The ISO standard 3166 country name 2-digit code, OECD/Basel competent authority code, and port of exit for the country of export;
- (viii) Statement of whether the notification covers a single shipment or multiple shipments;
- (ix) Start and End Dates requested for transboundary movements;
- (x) Means of transport planned to be used;
- (xi) Description(s) of each hazardous waste, including whether each hazardous waste is regulated universal waste under section 273, or the state equivalent, spent lead-acid batteries being exported for recovery of lead under section 266, subsection G, or the state equivalent, or industrial ethyl alcohol being exported for reclamation under § 261.6(a)(3)(i), or the state equivalent, estimated total quantity of each hazardous waste, the applicable RCRA hazardous waste code(s) for each hazardous waste, the applicable OECD waste code from the lists incorporated by reference in § 260.11, and the United Nations/U.S. Department of Transportation (DOT) ID number for each hazardous waste;
- (xii) Specification of the recovery or disposal operation(s) as defined in § 262.81; and
- (xiii) Certification/Declaration signed by the importer that states:

I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally enforceable written contractual obligations have been entered into and that any applicable insurance or other financial guarantee is or shall be in force covering the transboundary movement.

Name:

Signature:

Date:

Note to Paragraph (b)(1)(xiii): The United States does not currently require financial assurance for these waste shipments.

(2) Notifications listing interim recycling operations or interim disposal operations. If the receiving facility listed in paragraph (b)(1)(ii) of this section will engage in any of the interim recovery operations R12 or R13 or interim disposal operations D13 through D15, the notification submitted according to paragraph (b)(1) of this section must also include the final recovery or disposal facility name, address, telephone, fax numbers, e-mail address, technologies employed, and which of the applicable recovery or disposal

operations R1 through R11 and D1 through D12, will be employed at the final recovery or disposal facility. The recovery and disposal operations in this paragraph are defined in § 262.81.

(3) Renotifications. When the foreign exporter wishes to change any of the conditions specified on the original notification (including increasing the estimate of the total quantity of hazardous waste specified in the original notification or adding transporters), the importer must submit a renotification of the changes to EPA using the allowable methods in paragraph (b)(1) of this section. Any shipment using the requested changes cannot take place until EPA and the countries of transit consent to the changes and the importer receives an EPA AOC letter documenting the consents to the changes.

(4) A notification is complete when EPA determines the notification satisfies the requirements of paragraph (b)(1)(i) through (xiii) of this section.

(5) Where EPA and the countries of transit consent to the proposed transboundary movement(s) of the hazardous waste(s), EPA will forward an EPA AOC letter to the importer documenting the countries' consents and EPA's consent. Where any of the countries of transit or EPA objects to the proposed transboundary movement(s) of the hazardous waste or withdraws a prior consent, EPA will notify the importer.

(6) Export of hazardous wastes originally imported into the United States. Export of hazardous wastes that were originally imported into the United States for recycling or disposal operations is prohibited unless an exporter in the United States complies with the export requirements in § 262.83(b)(7).

(c) RCRA Manifest instructions for import shipments.

(1) When importing hazardous waste, the importer must meet all the requirements of § 262.20 for the manifest except that:

(i) In place of the generator's name, address and EPA identification number, the name and address of the foreign generator and the importer's name, address and EPA identification number must be used.

(ii) In place of the generator's signature on the certification statement, the importer or his agent must sign and date the certification and obtain the signature of the initial transporter.

(2) The importer may obtain the manifest form from any source that is registered with the EPA as a supplier of manifests (e.g., states, waste handlers, and/or commercial forms printers).

(3) In the International Shipments block, the importer must check the import box and enter the point of entry (city and State) into the United States.

(4) The importer must provide the transporter with an additional copy of the manifest to be submitted by the receiving facility to U.S. EPA in accordance with § 264.71(a)(3) and 265.71(a)(3).

(5) In lieu of the requirements of § 262.20(d), where a shipment cannot be delivered for any reason to the receiving facility, the importer must instruct the transporter in writing via fax, email or mail to:

(i) Return the hazardous waste to the foreign exporter or designate another facility within the United States; and

(ii) Revise the manifest in accordance with the importer's instructions.

(d) Movement document requirements for import shipments.

(1) The importer must ensure that a movement document meeting the conditions of paragraph (d)(2) of this section accompanies each transboundary movement of hazardous wastes from the initiation of the shipment in the country of export until it reaches the receiving facility, including cases in which the hazardous waste is stored and/or sorted by the importer prior to shipment to the receiving facility, except as provided in paragraphs (d)(1)(i) and (ii) of this section.

(i) For shipments of hazardous waste within the United States by water (bulk shipments only), the importer must forward the movement document to the last water (bulk shipment) transporter to handle the hazardous waste in the United States if imported by water.

(ii) For rail shipments of hazardous waste within the United States which start from the company originating the export shipment, the importer must forward the movement document to the next non-rail transporter, if any, or the last rail transporter to handle the hazardous waste in the United States if imported by rail.

(2) The movement document must include the following paragraphs (d)(2)(i) through (xv) of this section:

(i) The corresponding AOC number(s) and waste number(s) for the listed waste;

(ii) The shipment number and the total number of shipments under the AOC number;

(iii) Foreign exporter name, address, telephone, fax numbers, and e-mail address;

(iv) Receiving facility name, EPA ID number, address, telephone, fax numbers, e-mail address, technologies employed, and the applicable recovery or disposal operations as defined in § 262.81;

(v) Importer name (if not the owner or operator of the receiving facility), EPA ID number, address, telephone, fax numbers, and e-mail address;

(vi) Description(s) of each hazardous waste, quantity of each hazardous waste in the shipment, applicable RCRA hazardous waste code(s) for each hazardous waste, the applicable OECD waste code for each hazardous waste from the lists incorporated by reference in § 260.11, and the United Nations/U.S. Department of Transportation (DOT) ID number for each hazardous waste;

(vii) Date movement commenced;

(viii) Name (if not the foreign exporter), address, telephone, fax numbers, and e-mail of the foreign company originating the shipment;

(ix) Company name, EPA ID number, address, telephone, fax, and e-mail address of all transporters;

(x) Identification (license, registered name or registration number) of means of transport, including types of packaging;

(xi) Any special precautions to be taken by transporter(s);

(xii) Certification/declaration signed and dated by the foreign exporter that the information in the movement document is complete and correct;

(xiii) Appropriate signatures for each custody transfer (e.g., transporter, importer, and owner or operator of the receiving facility);

(xiv) Each person that has physical custody of the waste from the time the movement commences until it arrives at the receiving facility must sign the movement document (e.g., transporter, importer, and owner or operator of the receiving facility); and

(xv) The receiving facility must send a copy of the signed movement document to confirm receipt within three working days of shipment delivery to the foreign exporter, to the competent authorities of the countries of export and transit, and for shipments received on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

(e) Duty to return or export hazardous wastes. When a transboundary movement of hazardous wastes cannot be completed in accordance with the terms of the contract or the consent(s), the provisions of paragraph (f)(4) of this section apply. If alternative arrangements cannot be made to recover the hazardous waste in an environmentally sound manner in the United States, the hazardous waste must be returned to the country of export or exported to a third country. The provisions of paragraph (b)(6) of this section apply to any hazardous waste shipments to be exported to a third country. If the return shipment will cross any transit country, the return shipment may only occur after EPA provides notification to and obtains consent from the competent authority of the country of transit, and provides a copy of that consent to the importer.

(f) Import contract requirements.

(1) Imports of hazardous waste must occur under the terms of a valid written contract, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). Such contracts or equivalent arrangements must be executed by the foreign exporter, importer, and the owner or operator of the receiving facility, and must specify responsibilities for each. Contracts or equivalent arrangements are valid for the purposes of this section only if persons assuming obligations under the contracts or equivalent arrangements have appropriate legal status to conduct the operations specified in the contract or equivalent arrangements.

(2) Contracts or equivalent arrangements must specify the name and EPA ID number, where available, of paragraph (f)(2)(i) through (iv) of this section:

- (i) The foreign company from where each import shipment of hazardous waste is initiated;
- (ii) Each person who will have physical custody of the hazardous wastes;
- (iii) Each person who will have legal control of the hazardous wastes; and
- (iv) The receiving facility.

(3) Contracts or equivalent arrangements must specify the use of a movement document in accordance with § 262.84(d).

(4) Contracts or equivalent arrangements must specify which party to the contract will assume responsibility for alternate management of the hazardous wastes if their disposition cannot be carried out as described in the notification of intent to export submitted by either the foreign exporter or the importer. In such cases, contracts must specify that:

- (i) The transporter or receiving facility having actual possession or physical control over the hazardous wastes will immediately inform the foreign exporter and importer, and the competent authority where the shipment is located of the need to arrange alternate management or return; and
- (ii) The person specified in the contract will assume responsibility for the adequate management of the hazardous wastes in compliance with applicable laws and rules including, if necessary, arranging the return of the hazardous wastes and, as the case may be, shall provide the notification for re-export required in § 262.83(b)(7).

(5) Contracts must specify that the importer or the receiving facility that performed interim recycling operations R12, R13, or RC16, or interim disposal operations D13 through D15 or DC15 through DC17, as appropriate, will provide the notification required in § 262.83(b)(7) prior to the re-export of hazardous wastes. The recovery and disposal operations in this paragraph are defined in § 262.81.

(6) Contracts or equivalent arrangements must include provisions for financial guarantees, if required by the competent authorities of any countries concerned, in accordance with applicable national or international law requirements.

Note to Paragraph (f)(6): Financial guarantees so required are intended to provide for alternate recycling, disposal or other means of sound management of the wastes in cases where arrangements for the shipment and the recovery operations cannot be carried out as foreseen. The United States does not require such financial guarantees at this time; however, some OECD Member countries or other foreign countries do. It is the responsibility of the importer to ascertain and comply with such requirements; in some cases, persons or facilities located in those countries may refuse to enter into the necessary contracts absent specific references or certifications to financial guarantees.

(7) Contracts or equivalent arrangements must contain provisions requiring each contracting party to comply with all applicable requirements of this subpart.

(8) Upon request by EPA, importers or disposal or recovery facilities must submit to EPA copies of contracts, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity).

(g) Confirmation of recovery or disposal. The receiving facility must do the following:

(1) Send copies of the signed and dated confirmation of recovery or disposal, as soon as possible, but no later than thirty days after completing recovery or disposal on the waste in the shipment and no later than one calendar year following receipt of the waste, to the foreign exporter, to the competent authority of the country of export, and for shipments recycled or disposed of on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

(2) If the receiving facility performed any of recovery operations R12, R13, or RC16, or disposal operations D13 through D15, or DC17, the receiving facility shall promptly send copies of the confirmation of recovery or disposal that it receives from the final recovery or disposal facility within one year of shipment delivery to the final recovery or disposal facility that performed one of recovery operations R1 through R11, or RC14 to RC15, or one of disposal operations D1 through D12, or DC15 to DC16, to the competent authority of the country of export, and for confirmations received on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The recovery and disposal operations in this paragraph are defined in § 262.81.

(h) Recordkeeping.

(1) The importer shall keep the following records and provide them to EPA or authorized state personnel upon request:

(i) A copy of each notification that the importer sends to EPA under paragraph (b)(1) of this section and each EPA AOC it receives in response for a period of at least three (3) years from the date the hazardous waste was accepted by the initial foreign transporter; and

(ii) A copy of each contract or equivalent arrangement established per paragraph (f) of this section for at least three (3) years from the expiration date of the contract or equivalent arrangement.

(2) The receiving facility shall keep the following records:

(i) A copy of each confirmation of receipt (i.e., movement document) that the receiving facility sends to the foreign exporter for at least three (3) years from the date it received the hazardous waste;

(ii) A copy of each confirmation of recovery or disposal that the receiving facility sends to the foreign exporter for at least three (3) years from the date that it completed processing the waste shipment;

(iii) For the receiving facility that performed any of recovery operations R12, R13, or RC16, or disposal operations D13 through D15, or DC17 (recovery and disposal operations defined in § 262.81), a copy of each confirmation of recovery or disposal that the final recovery or disposal facility sent to it for at least three (3) years from the date that the final recovery or disposal facility completed processing the waste shipment; and

(iv) A copy of each contract or equivalent arrangement established per paragraph (f) of this section for at least three (3) years from the expiration date of the contract or equivalent arrangement.

(3) Importers and receiving facilities may satisfy these recordkeeping requirements by retaining electronically submitted documents in the importer's or receiving facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No importer or receiving facility may be held liable for the inability to produce such documents for inspection under this section if the importer or receiving facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system for which the importer or receiving facility bears no responsibility.

(4) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

§ 262.85 [Reserved]

§ 262.86 [Reserved]

§ 262.87 [Reserved]

§ 262.88 [Reserved]

§ 262.89 [Reserved]

Subsections I-J [Reserved]

Subsection K—Alternative Requirements for Hazardous Waste Determination and Accumulation of Unwanted Material for Laboratories Owned by Eligible Academic Entities

§ 262.200 Definitions for this subsection.

The following definitions apply to this subsection:

“College/University” means a private or public, post-secondary, degree-granting, academic institution, that is accredited by an accrediting agency listed annually by the U.S. Department of Education.

“Eligible academic entity” means a college or university, or a non-profit research institute that is owned by or has a formal written affiliation agreement with a college or university, or a teaching hospital that is owned by or has a formal written affiliation agreement with a college or university.

“Formal written affiliation agreement for a non-profit research institute” means a written document that establishes a relationship between institutions for the purposes of research and/or education and is signed by authorized representatives, as defined by § 260.10 of this rule, from each institution. A relationship on a project-by-project or grant-by-grant basis is not considered a formal written affiliation agreement. A “formal written affiliation agreement for a teaching hospital” means a master affiliation agreement and program letter of agreement, as defined by the Accreditation Council for Graduate Medical Education, with an accredited medical program or medical school.

“Laboratory” means an area owned by an eligible academic entity where relatively small quantities of chemicals and other substances are used on a non-production basis for teaching or research (or diagnostic purposes at a teaching hospital) and are stored and used in containers that are easily manipulated by one person. Photo laboratories, art studios, and field laboratories are considered laboratories. Areas such as chemical stockrooms and preparatory laboratories that provide a support function to teaching or research laboratories (or diagnostic laboratories at teaching hospitals) are also considered laboratories.

“Laboratory clean-out” means an evaluation of the inventory of chemicals and other materials in a laboratory that are no longer needed or that have expired and the subsequent removal of those chemicals or other unwanted materials from the laboratory. A clean-out may occur for several reasons. It may be on a routine basis (e.g., at the end of a semester or academic year) or as a result of a renovation, relocation, or change in laboratory supervisor/occupant. A regularly scheduled removal of unwanted material as required by § 262.208 of this rule does not qualify as a laboratory clean-out.

“Laboratory worker” means a person who handles chemicals and/or unwanted material in a laboratory and may include, but is not limited to, faculty, staff, post-doctoral fellows, interns, researchers, technicians, supervisors/managers, and principal investigators. A person does not need to be paid or otherwise compensated for his/her work in the laboratory to be considered a laboratory worker. Undergraduate and graduate students in a supervised classroom setting are not laboratory workers.

“Non-profit research institute” means an organization that conducts research as its primary function and files as a non-profit organization under the tax code of 26 U.S.C. 501(c)(3).

“Reactive acutely hazardous unwanted material” means an unwanted material that is one of the acutely hazardous commercial chemical products listed in § 261.33(e) for reactivity.

“Teaching hospital” means a hospital that trains students to become physicians, nurses or other health or laboratory personnel.

“Trained professional” means a person who has completed the applicable RCRA training requirements of § 262.17 for large quantity generators, or is knowledgeable about normal operations and emergencies in accordance with § 262.16 for small quantity generators and very

small quantity generators. A trained professional may be an employee of the eligible academic entity or may be a contractor or vendor who meets the requisite training requirements.

“Unwanted material” means any chemical, mixtures of chemicals, products of experiments or other material from a laboratory that is no longer needed, wanted or usable in the laboratory and that is destined for hazardous waste determination by a trained professional. Unwanted materials include reactive acutely hazardous unwanted materials and materials that may eventually be determined not to be solid waste pursuant to § 261.2, or a hazardous waste pursuant to § 261.3. If an eligible academic entity elects to use another equally effective term in lieu of “unwanted material,” as allowed by § 262.206(a)(1)(i), the equally effective term has the same meaning and is subject to the same requirements as “unwanted material” under this subpart.

“Working container” means a small container (i.e., two gallons or less) that is in use at a laboratory bench, hood, or other work station, to collect unwanted material from a laboratory experiment or procedure.

§ 262.201 Applicability of this subsection

(a) Large quantity generators and small quantity generators. This Subsection provides alternative requirements to the requirements in §§ 262.11 and 262.15 for the hazardous waste determination and accumulation of hazardous waste in laboratories owned by eligible academic entities that choose to be subject to this subpart, provided that they complete the notification requirements of § 262.203.

(b) Very small quantity generators. This Subsection provides alternative requirements to the conditional exemption in § 262.14 for the accumulation of hazardous waste in laboratories owned by eligible academic entities that choose to be subject to this subsection, provided that they complete the notification requirements of § 262.203.

§ 262.202 This Subsection is optional

(a) Large quantity generators and small quantity generators: Eligible academic entities have the option of complying with this Subsection with respect to its laboratories, as an alternative to complying with the requirements of §§ 262.11 and 262.15.

(b) Very small quantity generators. Eligible academic entities have the option of complying with this Subsection with respect to its laboratories, as an alternative to complying with the conditional exemption of § 262.14.

§ 262.203 How an eligible academic entity indicates it will be subject to the requirements of this subsection

(a) An eligible academic entity must notify the Director in writing, using the RCRA Subtitle C Site Identification Form (EPA Form 8700-12), that it is electing to be subject to the requirements of this Subsection for all the laboratories owned by the eligible academic entity under the same EPA Identification Number. An eligible academic entity that is a very small quantity generator and does not have an EPA Identification Number must notify that it is electing to be subject to the requirements of this Subsection for all the laboratories owned by the eligible academic entity that are on-site, as defined by § 260.10. An eligible academic entity must submit a separate notification (Site Identification Form) for each EPA Identification Number (or site, for very small quantity generators) that is electing to be subject to the requirements of this subsection, and must submit the

Site Identification Form before it begins operating under this subsection.

(b) When submitting the Site Identification Form, the eligible academic entity must, at a minimum, fill out the following fields on the form:

- (1) Reason for Submittal.
- (2) Site EPA Identification Number (except for very small quantity generators).
- (3) Site Name.
- (4) Site Location Information.
- (5) Site Land Type.
- (6) North American Industry Classification System (NAICS) Code(s) for the Site.
- (7) Site Mailing Address.
- (8) Site Contact Person.
- (9) Operator and Legal Owner of the Site.
- (10) Type of Regulated Waste Activity.
- (11) Certification.

(c) An eligible academic entity must keep a copy of the notification on file at the eligible academic entity for as long as its laboratories are subject to this subsection.

(d) A teaching hospital that is not owned by a college or university must keep a copy of its formal written affiliation agreement with a college or university on file at the teaching hospital for as long as its laboratories are subject to this subsection.

(e) A non-profit research institute that is not owned by a college or university must keep a copy of its formal written affiliation agreement with a college or university on file at the non-profit research institute for as long as its laboratories are subject to this subsection.

§ 262.204 How an eligible academic entity indicates it will withdraw from the requirements of this subsection

(a) An eligible academic entity must notify the Director in writing, using the RCRA Subtitle C Site Identification Form (EPA Form 8700-12), that it is electing to no longer be subject to the requirements of this Subsection for all the laboratories owned by the eligible academic entity under the same EPA Identification Number and that it will comply with the requirements of §§ 262.11 and 262.15 for small quantity generators and large quantity generators. An eligible academic entity that is a very small quantity generator and does not have an EPA Identification Number must notify that it is withdrawing from the requirements of this Subsection for all the laboratories owned by the eligible academic entity that are on-site and that it will comply with the conditional exemption in § 262.14. An eligible academic entity must submit a separate notification (Site Identification Form) for each EPA Identification Number (or site, for very small quantity generators) that is withdrawing from the requirements of this Subsection and must submit the Site Identification Form before it begins operating under the requirements of §§ 262.11 and 262.15 for small quantity generators and large quantity generators, or § 262.14 for very small quantity generators.

(b) When submitting the Site Identification Form, the eligible academic entity must, at a minimum, fill out the following fields on the form:

- (1) Reason for Submittal.
- (2) Site EPA Identification Number.
- (3) Site Name.
- (4) Site Location Information.

- (5) Site Land Type.
- (6) North American Industry Classification System (NAICS) Code(s) for the Site.
- (7) Site Mailing Address.
- (8) Site Contact Person.
- (9) Operator and Legal Owner of the Site.
- (10) Type of Regulated Waste Activity.
- (11) Certification.

(c) An eligible academic entity must keep a copy of the withdrawal notice on file at the eligible academic entity for three years from the date of the notification.

§ 262.205 Summary of the requirements of this subsection

An eligible academic entity that chooses to be subject to this Subsection is not required to have interim status or a RCRA Part B permit for the accumulation of unwanted material and hazardous waste in its laboratories, provided the laboratories comply with the provisions of this Subsection and the eligible academic entity has a Laboratory Management Plan (LMP) in accordance with § 262.214 that describes how the laboratories owned by the eligible academic entity will comply with the requirements of this subsection.

§ 262.206 Labeling and management standards for containers of unwanted material in the laboratory

An eligible academic entity must manage containers of unwanted material while in the laboratory in accordance with the requirements in this subsection.

(a) Labeling: Label unwanted material as follows:

(1) The following information must be affixed or attached to the container:

(i) The words “unwanted material” or another equally effective term that is to be used consistently by the eligible academic entity and that is identified in Part I of the Laboratory Management Plan, and

(ii) Sufficient information to alert emergency responders to the contents of the container. Examples of information that would be sufficient to alert emergency responders to the contents of the container include, but are not limited to:

(A) The name of the chemical(s),

(B) The type or class of chemical, such as organic solvents or halogenated organic solvents.

(2) The following information may be affixed or attached to the container, but must at a minimum be associated with the container:

(i) The date that the unwanted material first began accumulating in the container, and

(ii) Information sufficient to allow a trained professional to properly identify whether an unwanted material is a solid and hazardous waste and to assign the proper hazardous waste code(s), pursuant to § 262.11. Examples of information that would allow a trained professional to properly identify whether an unwanted material is a solid or hazardous waste include, but are not limited to:

(A) The name and/or description of the chemical contents or composition of the unwanted material, or, if known, the product of the chemical reaction,

(B) Whether the unwanted material has been used or is unused,

(C) A description of the manner in which the chemical was produced or processed, if applicable.

(b) Management of Containers in the Laboratory: An eligible academic entity must properly manage containers of unwanted material in the laboratory to assure safe storage of the unwanted material, to prevent leaks, spills, emissions to the air, adverse chemical reactions, and dangerous situations that may result in harm to human health or the environment. Proper container management must include the following:

(1) Containers are maintained and kept in good condition and damaged containers are replaced, overpacked, or repaired, and

(2) Containers are compatible with their contents to avoid reactions between the contents and the container; and are made of, or lined with, material that is compatible with the unwanted material so that the container's integrity is not impaired, and

(3) Containers must be kept closed at all times, except:

(i) When adding, removing or bulking unwanted material, or

(ii) A working container may be open until the end of the procedure or work shift, or until it is full, whichever comes first, at which time the working container must either be closed or the contents emptied into a separate container that is then closed, or

(iii) When venting of a container is necessary:-

(A) For the proper operation of laboratory equipment, such as with in-line collection of unwanted materials from high performance liquid chromatographs, or

(B) To prevent dangerous situations, such as build-up of extreme pressure.

§ 262.207 Training

An eligible academic entity must provide training to all individuals working in a laboratory at the eligible academic entity, as follows:

(a) Training for laboratory workers and students must be commensurate with their duties so they understand the requirements in this Subsection and can implement them.

(b) An eligible academic entity can provide training for laboratory workers and students in a variety of ways, including, but not limited to:

(1) Instruction by the professor or laboratory manager before or during an experiment; or

(2) Formal classroom training; or

(3) Electronic/written training; or

(4) On-the-job training; or

(5) Written or oral exams.

(c) An eligible academic entity that is a large quantity generator must maintain documentation for the durations specified in § 265.16(e) demonstrating training for all laboratory workers that is sufficient to determine whether laboratory workers have been trained. Examples of documentation demonstrating training can include, but are not limited to, the following:

(1) Sign-in/attendance sheet(s) for training session(s); or

(2) Syllabus for training session; or

(3) Certificate of training completion; or

(4) Test results.

(d) A trained professional must:

(1) Accompany the transfer of unwanted material and hazardous waste when the unwanted

material and hazardous waste is removed from the laboratory, and

(2) Make the hazardous waste determination, pursuant to § 262.11(a) through (d) , for unwanted material.

§ 262.208 Removing containers of unwanted material from the laboratory

(a) Removing containers of unwanted material on a regular schedule. An eligible academic entity must either:

(1) Remove all containers of unwanted material from each laboratory on a regular interval, not to exceed 12 months; or

(2) Remove containers of unwanted material from each laboratory within 12 months of each container's accumulation start date.

(b) The eligible academic entity must specify in Part I of its Laboratory Management Plan whether it will comply with paragraph (a)(1) or (a)(2) of this subsection for the regular removal of unwanted material from its laboratories.

(c) The eligible academic entity must specify in Part II of its Laboratory Management Plan how it will comply with paragraph (a)(1) or (a)(2) of this section and develop a schedule for regular removals of unwanted material from its laboratories.

(d) Removing containers of unwanted material when volumes are exceeded.

(1) If a laboratory accumulates a total volume of unwanted material (including reactive acutely hazardous unwanted material) in excess of 55 gallons before the regularly scheduled removal, the eligible academic entity must ensure that all containers of unwanted material in the laboratory (including reactive acutely hazardous unwanted material):

(i) Are marked on the label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) with the date that 55 gallons is exceeded; and

(ii) Are removed from the laboratory within 10 calendar days of the date that 55 gallons was exceeded, or at the next regularly scheduled removal, whichever comes first.

(2) If a laboratory accumulates more than 1 quart of reactive acutely hazardous unwanted material or more than 1 kg (2.2 pounds) of solid reactive acutely hazardous unwanted material before the regularly scheduled removal, then the eligible academic entity must ensure that all containers of reactive acutely hazardous unwanted material:

(i) Are marked on the label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) with the date that 1 quart or 1kg is exceeded; and

(ii) Are removed from the laboratory within 10 calendar days of the date that 1 quart or 1kg was exceeded, or at the next regularly scheduled removal, whichever comes first.

§ 262.209 Where and when to make the hazardous waste determination and where to send containers of unwanted material upon removal from the laboratory

(a) Large quantity generators and small quantity generators—an eligible academic entity must ensure that a trained professional makes a hazardous waste determination, pursuant to § 262.11, for unwanted material in any of the following areas:

(1) In the laboratory before the unwanted material is removed from the laboratory, in

accordance with § 262.210;

(2) Within 4 calendar days of arriving at an on-site central accumulation area, in accordance with § 262.211; and

(3) Within 4 calendar days of arriving at an on-site interim status or permitted treatment, storage or disposal facility, in accordance with § 262.212.

(b) Very small quantity generators—an eligible academic entity must ensure that a trained professional makes a hazardous waste determination, pursuant to § 262.11, for unwanted material in the laboratory before the unwanted material is removed from the laboratory, in accordance with § 262.210.

§ 262.210 Making the hazardous waste determination in the laboratory before the unwanted material is removed from the laboratory

If an eligible academic entity makes the hazardous waste determination, pursuant to § 262.11(a) through (d), for unwanted material in the laboratory, it must comply with the following:

(a) A trained professional must make the hazardous waste determination, pursuant to § 262.11 (a) through (d), before the unwanted material is removed from the laboratory.

(b) If an unwanted material is a hazardous waste, the eligible academic entity must:

(1) Write the words “hazardous waste” on the container label that is affixed or attached to the container, before the hazardous waste may be removed from the laboratory; and

(2) Write the appropriate hazardous waste code(s) on the label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) before the hazardous waste is transported off-site.

(3) Count the hazardous waste toward the eligible academic entity’s generator category, pursuant to § 262.13, in the calendar month that the hazardous waste determination was made.

(c) A trained professional must accompany all hazardous waste that is transferred from the laboratory(ies) to an on-site central accumulation area or on-site interim status or permitted treatment, storage or disposal facility.

(d) When hazardous waste is removed from the laboratory:

(1) Large quantity generators and small quantity generators must ensure it is taken directly from the laboratory(ies) to an on-site central accumulation area, or on-site interim status or permitted treatment, storage or disposal facility, or transported off-site.

(2) Very small quantity generators must ensure it is taken directly from the laboratory(ies) to any of the types of facilities listed in §262.14.

(e) An unwanted material that is a hazardous waste is subject to all applicable hazardous waste rules when it is removed from the laboratory.

§ 262.211 Making the hazardous waste determination at an on-site central accumulation area

If an eligible academic entity makes the hazardous waste determination, pursuant to § 262.11, for unwanted material at an on-site central accumulation area, it must comply with the following:

(a) A trained professional must accompany all unwanted material that is transferred from the laboratory(ies) to an on-site central accumulation area.

(b) All unwanted material removed from the laboratory(ies) must be taken directly from the laboratory(ies) to the on-site central accumulation area.

(c) The unwanted material becomes subject to the generator accumulation rules of §262.16 for small quantity generators or §262.17 for large quantity generators as soon as it arrives in the central accumulation area, except for the “hazardous waste” labeling conditions of §262.16(b)(6) and §262.17(a)(5).

(d) A trained professional must determine, pursuant to § 262.11(a) through (d), if the unwanted material is a hazardous waste within 4 calendar days of the unwanted materials’ arrival at the on-site central accumulation area.

(e) If the unwanted material is a hazardous waste, the eligible academic entity must:

(1) Write the words “hazardous waste” on the container label that is affixed or attached to the container, within 4 calendar days of arriving at the on-site central accumulation area and before the hazardous waste may be removed from the on-site central accumulation area, and

(2) Write the appropriate hazardous waste code(s) on the container label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) before the hazardous waste may be treated or disposed of on-site or transported off-site, and

(3) Count the hazardous waste toward the eligible academic entity’s generator category, pursuant to § 262.13 in the calendar month that the hazardous waste determination was made, and

(4) Manage the hazardous waste according to all applicable hazardous waste rules.

§ 262.212 Making the hazardous waste determination at an on-site interim status or permitted treatment, storage or disposal facility

If an eligible academic entity makes the hazardous waste determination, pursuant to § 262.11, for unwanted material at an on-site interim status or permitted treatment, storage or disposal facility, it must comply with the following:

(a) A trained professional must accompany all unwanted material that is transferred from the laboratory(ies) to an on-site interim status or permitted treatment, storage or disposal facility.

(b) All unwanted material removed from the laboratory(ies) must be taken directly from the laboratory(ies) to the on-site interim status or permitted treatment, storage or disposal facility.

(c) The unwanted material becomes subject to the terms of the eligible academic entity’s hazardous waste permit or interim status as soon as it arrives in the on-site treatment, storage or disposal facility.

(d) A trained professional must determine, pursuant to § 262.11(a) through (d), if the unwanted material is a hazardous waste within 4 calendar days of the unwanted materials’ arrival at an on-site interim status or permitted treatment, storage or disposal facility.

(e) If the unwanted material is a hazardous waste, the eligible academic entity must:

(1) Write the words “hazardous waste” on the container label that is affixed or attached to the container within 4 calendar days of arriving at the on-site interim status or permitted treatment, storage disposal facility and before the hazardous waste may be removed from the on-site interim status or permitted treatment, storage or disposal facility, and

(2) Write the appropriate hazardous waste code(s) on the container label that is associated with the container (or on the label that is affixed or attached to the container, if that is

preferred) before the hazardous waste may be treated or disposed on-site or transported off-site, and

(3) Count the hazardous waste toward the eligible academic entity's generator status, pursuant to § 261.5(c) and (d) in the calendar month that the hazardous waste determination was made, and

(4) Manage the hazardous waste according to all applicable hazardous waste rules.

§ 262.213 Laboratory clean-outs

(a) One time per 12 month period for each laboratory, an eligible academic entity may opt to conduct a laboratory clean-out that is subject to all the applicable requirements of this subpart, except that:

(1) If the volume of unwanted material in the laboratory exceeds 55 gallons (or 1 quart of liquid reactive acutely hazardous unwanted material or 1kg of solid reactive acutely hazardous unwanted material), the eligible academic entity is not required to remove all unwanted materials from the laboratory within 10 calendar days of exceeding 55 gallons (or 1 quart of liquid reactive acutely hazardous unwanted material or 1kg of solid reactive acutely hazardous unwanted material), as required by § 262.208. Instead, the eligible academic entity must remove all unwanted materials from the laboratory within 30 calendar days from the start of the laboratory clean-out; and

(2) For the purposes of on-site accumulation, an eligible academic entity is not required to count a hazardous waste that is an unused commercial chemical product (listed in Section 261, Subsection D of this rule or exhibiting one or more characteristics in Section 261, Subsection C of this rule) generated solely during the laboratory clean-out toward its hazardous waste generator status, pursuant to §262.13. An unwanted material that is generated prior to the beginning of the laboratory clean-out and is still in the laboratory at the time the laboratory clean-out commences must be counted toward hazardous waste generator status, pursuant to §262.13, if it is determined to be hazardous waste; and

(3) For the purposes of off-site management, an eligible academic entity must count all its hazardous waste, regardless of whether the hazardous waste was counted toward generator status under paragraph (a)(2) of this section, and if it generates more than 1 kg/month of acute hazardous waste or more than 100 kg/month of hazardous waste (i.e., the very small quantity generator limits as defined in §260.10 of this rule), the hazardous waste is subject to all applicable hazardous waste rules when it is transported off-site; and

(4) An eligible academic entity must document the activities of the laboratory clean-out. The documentation must, at a minimum, identify the laboratory being cleaned out, the date the laboratory clean-out begins and ends, and the volume of hazardous waste generated during the laboratory clean-out. The eligible academic entity must maintain the records for a period of three years from the date the clean-out ends; and

(b) For all other laboratory clean-outs conducted during the same 12-month period, an eligible academic entity is subject to all the applicable requirements of this subpart, including, but not limited to:

(1) The requirement to remove all unwanted materials from the laboratory within 10 calendar days of exceeding 55 gallons (or 1 quart of reactive acutely hazardous unwanted material), as required by § 262.208; and

(2) The requirement to count all hazardous waste, including unused hazardous waste, generated during the laboratory clean-out toward its hazardous waste generator category, pursuant to §262.13.

§ 262.214 Laboratory management plan

An eligible academic entity must develop and retain a written Laboratory Management Plan, or revise an existing written plan. The Laboratory Management Plan is a site-specific document that describes how the eligible academic entity will manage unwanted materials in compliance with this subpart. An eligible academic entity may write one Laboratory Management Plan for all the laboratories owned by the eligible academic entity that have opted into this subpart, even if the laboratories are located at sites with different EPA Identification Numbers. The Laboratory Management Plan must contain two parts with a total of nine elements identified in paragraphs (a) and (b) of this section. In Part I of its Laboratory Management Plan, an eligible academic entity must describe its procedures for each of the elements listed in paragraph (a) of this section. An eligible academic entity must implement and comply with the specific provisions that it develops to address the elements in Part I of the Laboratory Management Plan. In Part II of its Laboratory Management Plan, an eligible academic entity must describe its best management practices for each of the elements listed in paragraph (b) of this section. The specific actions taken by an eligible academic entity to implement each element in Part II of its Laboratory Management Plan may vary from the procedures described in the eligible academic entity's Laboratory Management Plan, without constituting a violation of this subpart. An eligible academic entity may include additional elements and best management practices in Part II of its Laboratory Management Plan if it chooses.

(a) The eligible academic entity must implement and comply with the specific provisions of Part I of its Laboratory Management Plan. In Part I of its Laboratory Management Plan, an eligible academic entity must:

(1) Describe procedures for container labeling in accordance with §262.206(a), including:

(i) Identifying whether the eligible academic entity will use the term “unwanted material” on the containers in the laboratory. If not, identify an equally effective term that will be used in lieu of “unwanted material” and consistently by the eligible academic entity. The equally effective term, if used, has the same meaning and is subject to the same requirements as “unwanted material.”

(ii) Identifying the manner in which information that is “associated with the container” will be imparted.

(2) Identify whether the eligible academic entity will comply with §262.208(a)(1) or (a)(2) for regularly scheduled removals of unwanted material from the laboratory.

(b) In Part II of its Laboratory Management Plan, an eligible academic entity must:

(1) Describe its intended best practices for container labeling and management, (see the required standards at §262.206).

(2) Describe its intended best practices for providing training for laboratory workers and students commensurate with their duties (see the required standards at §262.207(a)).

(3) Describe its intended best practices for providing training to ensure safe on-site transfers of unwanted material and hazardous waste by trained professionals (see the required standards at §262.207(d)(1)).

- (4) Describe its intended best practices for removing unwanted material from the laboratory, including:
 - (i) For regularly scheduled removals—Develop a regular schedule for identifying and removing unwanted materials from its laboratories (see the required standards at §262.208(a)(1) and (a)(2)).
 - (ii) For removals when maximum volumes are exceeded:
 - (A) Describe its intended best practices for removing unwanted materials from the laboratory within 10 calendar days when unwanted materials have exceeded their maximum volumes (see the required standards at §262.208(d)).
 - (B) Describe its intended best practices for communicating that unwanted materials have exceeded their maximum volumes.
- (5) Describe its intended best practices for making hazardous waste determinations, including specifying the duties of the individuals involved in the process (see the required standards at §262.11(a) through (d) and §§262.209 through 262.212).
- (6) Describe its intended best practices for laboratory clean-outs, if the eligible academic entity plans to use the incentives for laboratory clean-outs provided in §262.213, including:
 - (i) Procedures for conducting laboratory clean-outs (see the required standards at §262.213(a)(1) through (3)); and
 - (ii) Procedures for documenting laboratory clean-outs (see the required standards at §262.213(a)(4)).
- (7) Describe its intended best practices for emergency prevention, including:
 - (i) Procedures for emergency prevention, notification, and response, appropriate to the hazards in the laboratory; and
 - (ii) A list of chemicals that the eligible academic entity has, or is likely to have, that become more dangerous when they exceed their expiration date and/or as they degrade; and
 - (iii) Procedures to safely dispose of chemicals that become more dangerous when they exceed their expiration date and/or as they degrade; and
 - (iv) Procedures for the timely characterization of unknown chemicals.
- (c) An eligible academic entity must make its Laboratory Management Plan available to laboratory workers, students, or any others at the eligible academic entity who request it.
- (d) An eligible academic entity must review and revise its Laboratory Management Plan, as needed.

§ 262.215 Unwanted material that is not solid or hazardous waste

- (a) If an unwanted material does not meet the definition of solid waste in § 261.2, it is no longer subject to this Subsection or to the RCRA hazardous waste rules.
- (b) If an unwanted material does not meet the definition of hazardous waste in § 261.3, it is no longer subject to this Subsection or to the RCRA hazardous waste rules, but must be managed in compliance with any other applicable rules and/or conditions.

§ 262.216 Non-laboratory hazardous waste generated at an eligible academic entity

An eligible academic entity that generates hazardous waste outside of a laboratory is not eligible to manage that hazardous waste under this subpart; and

(a) Remains subject to the generator requirements of §§ 262.11 and 262.15 for large quantity generators and small quantity generators (if the hazardous waste is managed in a satellite accumulation area), and all other applicable generator requirements of Section 262 of this rule, with respect to that hazardous waste; or

(b) Remains subject to the conditional exemption of §262.14 for very small quantity generators, with respect to that hazardous waste.

Subsection L — Alternative Standards for Episodic Generation

§262.230 Applicability

This subsection is applicable to very small quantity generators and small quantity generators as defined in §260.10 of this rule.

§262.231 Definitions for this subsection

“Episodic event” means an activity or activities, either planned or unplanned, that does not normally occur during generator operations, resulting in an increase in the generation of hazardous wastes that exceeds the calendar month quantity limits for the generator's usual category.

“Planned episodic event” means an episodic event that the generator planned and prepared for, including regular maintenance, tank cleanouts, short-term projects, and removal of excess chemical inventory

“Unplanned episodic event” means an episodic event that the generator did not plan or reasonably did not expect to occur, including production process upsets, product recalls, accidental spills, or “acts of nature,” such as tornado, hurricane, or flood.

§262.232 Conditions for a generator managing hazardous waste from an episodic event

(a) Very small quantity generator. A very small quantity generator may maintain its existing generator category for hazardous waste generated during an episodic event provided that the generator complies with the following conditions:

(1) The very small quantity generator is limited to one episodic event per calendar year, unless a petition is granted under §262.233;

(2) Notification. The very small quantity generator must notify the Director no later than thirty (30) calendar days prior to initiating a planned episodic event using EPA Form 8700-12. In the event of an unplanned episodic event, the generator must notify the Director within 72 hours of the unplanned event via phone, email, or fax and subsequently submit EPA Form 8700-12. The generator shall include the start date and end date of the episodic event, the reason(s) for the event, types and estimated quantities of hazardous waste expected to be generated as a result of the episodic event, and shall identify a facility contact and emergency coordinator with 24-hour telephone access to discuss the notification submittal or respond to an emergency in compliance with §262.16(b)(9)(i);

(3) EPA ID Number. The very small quantity generator must have an EPA identification number or obtain an EPA identification number using EPA Form 8700-12;

(4) Accumulation. A very small quantity generator is prohibited from accumulating hazardous waste generated from an episodic event on drip pads and in containment buildings. When accumulating hazardous waste in containers and tanks the following conditions apply:

(i) Containers. A very small quantity generator accumulating in containers must mark or label its containers with the following:

(A) The words “Episodic Hazardous Waste”;

(B) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704); and

(C) The date upon which the episodic event began, clearly visible for inspection on each container.

(ii) Tanks. A very small quantity generator accumulating episodic hazardous waste in tanks must do the following:

(A) Mark or label the tank with the words “Episodic Hazardous Waste”;

(B) Mark or label its tanks with an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704);

(C) Use inventory logs, monitoring equipment or other records to identify the date upon which each episodic event begins; and

(D) Keep inventory logs or records with the above information on site and readily available for inspection.

(iii) Hazardous waste must be managed in a manner that minimizes the possibility of a fire, explosion, or release of hazardous waste or hazardous waste constituents to the air, soil, or water;

(A) Containers must be in good condition and compatible with the hazardous waste being accumulated therein. Containers must be kept closed except to add or remove waste; and.

(B) Tanks must be in good condition and compatible with the hazardous waste accumulated therein. Tanks must have procedures in place to prevent the overflow (e.g., be equipped with a means to stop inflow with systems such as a waste feed cutoff system or bypass system to a standby tank when hazardous waste is continuously fed into the tank). Tanks must be inspected at least once each operating day to ensure all applicable discharge control equipment, such as waste feed cutoff systems, bypass systems, and drainage systems are in good working order and to ensure the tank is operated according to its design by reviewing the data gathered

from monitoring equipment such as pressure and temperature gauges from the inspection.

(5) The very small quantity generator must comply with the hazardous waste manifest provisions of subsection B of this section when it sends its episodic event hazardous waste off site to a designated facility, as defined in §260.10 of this chapter.

(6) The very small quantity generator has up to sixty (60) calendar days from the start of the episodic event to manifest and send its hazardous waste generated from the episodic event to a designated facility, as defined in §260.10 of this chapter.

(7) Very small quantity generators must maintain the following records for three (3) years from the end date of the episodic event:

(i) Beginning and end dates of the episodic event;

(ii) A description of the episodic event;

(iii) A description of the types and quantities of hazardous wastes generated during the event;

(iv) A description of how the hazardous waste was managed as well as the name of the RCRA-designated facility that received the hazardous waste;

(v) Name(s) of hazardous waste transporters; and

(vi) An approval letter from the Director if the generator petitioned to conduct one additional episodic event per calendar year.

(b) Small quantity generators. A small quantity generator may maintain its existing generator category during an episodic event provided that the generator complies with the following conditions:

(1) The small quantity generator is limited to one episodic event per calendar year unless a petition is granted under §262.233;

(2) Notification. The small quantity generator must notify the Director no later than thirty (30) calendar days prior to initiating a planned episodic event using EPA Form 8700-12. In the event of an unplanned episodic event, the small quantity generator must notify the Director within 72 hours of the unplanned event via phone, email, or fax, and subsequently submit EPA Form 8700-12. The small quantity generator shall include the start date and end date of the episodic event and the reason(s) for the event, types and estimated quantities of hazardous wastes expected to be generated as a result of the episodic event, and identify a facility contact and emergency coordinator with 24-hour telephone access to discuss the notification submittal or respond to emergency;

(3) EPA ID Number. The small quantity generator must have an EPA identification number or obtain an EPA identification number using EPA Form 8700-12; and

(4) Accumulation by small quantity generators. A small quantity generator is prohibited from accumulating hazardous wastes generated from an episodic event waste on drip pads and in containment buildings. When accumulating hazardous waste generated from an episodic event in containers and tanks, the following conditions apply:

(i) Containers. A small quantity generator accumulating episodic hazardous waste in containers must meet the standards at §262.16(b)(2) of this chapter and must mark or label its containers with the following:

(A) The words “Episodic Hazardous Waste”;

(B) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of

Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704); and

(C) The date upon which the episodic event began, clearly visible for inspection on each container.

(ii) Tanks. A small quantity generator accumulating episodic hazardous waste in tanks must meet the standards at §262.16(b)(3) and must do the following:

(A) Mark or label its tank with the words “Episodic Hazardous Waste”;

(B) Mark or label its tanks with an indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704);

(C) Use inventory logs, monitoring equipment or other records to identify the date upon which each period of accumulation begins and ends; and

(D) Keep inventory logs or records with the above information on site and available for inspection.

(5) The small quantity generator must treat hazardous waste generated from an episodic event on site or manifest and ship such hazardous waste off site to a designated facility (as defined by §260.10 of this chapter) within sixty (60) calendar days from the start of the episodic event.

(6) The small quantity generator must maintain the following records for three (3) years from the end date of the episodic event:

(i) Beginning and end dates of the episodic event;

(ii) A description of the episodic event;

(iii) A description of the types and quantities of hazardous wastes generated during the event;

(iv) A description of how the hazardous waste was managed as well as the name of the designated facility (as defined by §260.10 of this chapter) that received the hazardous waste;

(v) Name(s) of hazardous waste transporters; and

(vi) An approval letter from the Director if the generator petitioned to conduct one additional episodic event per calendar year.

§262.233 Petition to manage one additional episodic event per calendar year

(a) A generator may petition the Director for a second episodic event in a calendar year without impacting its generator category under the following conditions:

(1) If a very small quantity generator or small quantity generator has already held a planned episodic event in a calendar year, the generator may petition the Director for an

additional unplanned episodic event in that calendar year within 72 hours of the unplanned event.

(2) If a very small quantity generator or small quantity generator has already held an unplanned episodic event in a calendar year, the generator may petition the Director for an additional planned episodic event in that calendar year.

(b) The petition must include the following:

(1) The reason(s) why an additional episodic event is needed and the nature of the episodic event;

(2) The estimated amount of hazardous waste to be managed from the event;

(3) How the hazardous waste is to be managed;

(4) The estimated length of time needed to complete management of the hazardous waste generated from the episodic event—not to exceed sixty (60) days; and

(5) Information regarding the previous episodic event managed by the generator, including the nature of the event, whether it was a planned or unplanned event, and how the generator complied with the conditions.

(c) The petition must be made to the Director in writing, either on paper or electronically.

(d) The generator must retain written approval in its records for three (3) years from the date the episodic event ended.

Subsection M—Preparedness, Prevention, and Emergency Procedures for Large Quantity Generators

§262.250 Applicability

The rules of this subsection apply to those areas of a large quantity generator where hazardous waste is generated or accumulated on site.

§262.251 Maintenance and operation of facility

A large quantity generator must maintain and operate its facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

§262.252 Required equipment

All areas deemed applicable by §262.250 must be equipped with the items in paragraphs (a) through (d) of this section (unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below or the actual hazardous waste generation or accumulation area does not lend itself for safety reasons to have a particular kind of equipment specified below). A large quantity generator may determine the most appropriate locations within its facility to locate equipment necessary to prepare for and respond to emergencies:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

§262.253 Testing and maintenance of equipment

All communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

§262.254 Access to communications or alarm system

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access (*e.g.*, direct or unimpeded access) to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, *unless* such a device is not required under §262.252.

(b) In the event there is just one employee on the premises while the facility is operating, the employee must have immediate access (*e.g.*, direct or unimpeded access) to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* such a device is not required under §262.252.

§262.255 Required aisle space

The large quantity generator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

§262.256 Arrangements with local authorities

(a) The large quantity generator must attempt to make arrangements with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, and local hospitals, taking into account the types and quantities of hazardous wastes handled at the facility. Arrangements may be made with the Local Emergency Planning Committee, if it is determined to be the appropriate organization with which to make arrangements.

(1) A large quantity generator attempting to make arrangements with its local fire department must determine the potential need for the services of the local police

department, other emergency response teams, emergency response contractors, equipment suppliers and local hospitals.

(2) As part of this coordination, the large quantity generator shall attempt to make arrangements, as necessary, to familiarize the above organizations with the layout of the facility, the properties of the hazardous waste handled at the facility and associated hazards, places where personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes as well as the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(3) Where more than one police or fire department might respond to an emergency, the large quantity generator shall attempt to make arrangements designating primary emergency authority to a specific fire or police department, and arrangements with any others to provide support to the primary emergency authority.

(b) The large quantity generator shall maintain records documenting the arrangements with the local fire department as well as any other organization necessary to respond to an emergency. This documentation must include documentation in the operating record that either confirms such arrangements actively exist or, in cases where no arrangements exist, confirms that attempts to make such arrangements were made.

(c) A facility possessing 24-hour response capabilities may seek a waiver from the authority having jurisdiction (AHJ) over the fire code within the facility's state or locality as far as needing to make arrangements with the local fire department as well as any other organization necessary to respond to an emergency, provided that the waiver is documented in the operating record.

§262.260 Purpose and implementation of contingency plan

(a) A large quantity generator must have a contingency plan for the facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

§262.261 Content of contingency plan

(a) The contingency plan must describe the actions facility personnel must take to comply with §§262.260 and 262.265 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the generator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with part 112 of this chapter, or some other emergency or contingency plan, it need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the standards of this part. The generator may develop one contingency plan that meets all regulatory standards. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan").

(c) The plan must describe arrangements agreed to with the local police department, fire department, other emergency response teams, emergency response contractors, equipment

suppliers, local hospitals or, if applicable, the Local Emergency Planning Committee, pursuant to §262.256.

(d) The plan must list names and emergency telephone numbers of all persons qualified to act as emergency coordinator (see §262.264), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. In situations where the generator facility has an emergency coordinator continuously on duty because it operates 24 hours per day, every day of the year, the plan may list the staffed position (*e.g.*, operations manager, shift coordinator, shift operations supervisor) as well as an emergency telephone number that can be guaranteed to be answered at all times.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for generator personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

§262.262 Copies of contingency plan

A copy of the contingency plan and all revisions to the plan must be maintained at the large quantity generator and—

(a) The large quantity generator must submit a copy of the contingency plan and all revisions to all local emergency responders (*i.e.*, police departments, fire departments, hospitals and State and local emergency response teams that may be called upon to provide emergency services). This document may also be submitted to the Local Emergency Planning Committee, as appropriate.

(b) A large quantity generator that first becomes subject to these provisions after May 30, 2017 or a large quantity generator that is otherwise amending its contingency plan must at that time submit a quick reference guide of the contingency plan to the local emergency responders identified at paragraph (a) of this section or, as appropriate, the Local Emergency Planning Committee. The quick reference guide must include the following elements:

(1) The types/names of hazardous wastes in layman's terms and the associated hazard associated with each hazardous waste present at any one time (*e.g.*, toxic paint wastes, spent ignitable solvent, corrosive acid);

(2) The estimated maximum amount of each hazardous waste that may be present at any one time;

(3) The identification of any hazardous wastes where exposure would require unique or special treatment by medical or hospital staff;

(4) A map of the facility showing where hazardous wastes are generated, accumulated and treated and routes for accessing these wastes;

(5) A street map of the facility in relation to surrounding businesses, schools and residential areas to understand how best to get to the facility and also evacuate citizens and workers;

- (6) The locations of water supply (*e.g.*, fire hydrant and its flow rate);
 - (7) The identification of on-site notification systems (*e.g.*, a fire alarm that rings off site, smoke alarms); and
 - (8) The name of the emergency coordinator(s) and 7/24-hour emergency telephone number(s) or, in the case of a facility where an emergency coordinator is continuously on duty, the emergency telephone number for the emergency coordinator.
- (c) Generators must update, if necessary, their quick reference guides, whenever the contingency plan is amended and submit these documents to the local emergency responders identified at paragraph (a) of this section or, as appropriate, the Local Emergency Planning Committee.

§262.263 Amendment of contingency plan

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

- (a) Applicable rules are revised;
- (b) The plan fails in an emergency;
- (c) The generator facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
- (d) The list of emergency coordinators changes; or
- (e) The list of emergency equipment changes.

§262.264 Emergency coordinator

At all times, there must be at least one employee either on the generator's premises or on call (*i.e.*, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures and implementing the necessary emergency procedures outlined in §262.265. Although responsibilities may vary depending on factors such as type and variety of hazardous waste(s) handled by the facility, as well as type and complexity of the facility, this emergency coordinator must be thoroughly familiar with all aspects of the generator's contingency plan, all operations and activities at the facility, the location and characteristics of hazardous waste handled, the location of all records within the facility, and the facility's layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

§262.265 Emergency procedures

- (a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:
 - (1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and
 - (2) Notify appropriate state or local agencies with designated response roles if their help is needed.
- (b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released

materials. The emergency coordinator may do this by observation or review of the facility records or manifests and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (*e.g.*, the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, the emergency coordinator must report the findings as follows:

(1) If the assessment indicates that evacuation of local areas may be advisable, the emergency coordinator must immediately notify appropriate local authorities. The emergency coordinator must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) The emergency coordinator must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

- (i) Name and telephone number of reporter;
- (ii) Name and address of the generator;
- (iii) Time and type of incident (*e.g.*, release, fire);
- (iv) Name and quantity of material(s) involved, to the extent known;
- (v) The extent of injuries, if any; and
- (vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the generator's facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released hazardous waste, and removing or isolating containers.

(f) If the generator stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. Unless the generator can demonstrate, in accordance with §261.3(c) or (d) of this chapter, that the recovered material is not a hazardous waste, then it is a newly generated hazardous waste that must be managed in accordance with all the applicable requirements and conditions for exemption in parts 262, 263, and 265 of this chapter.

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

- (1) No hazardous waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and
- (2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The generator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the generator must submit a written report on the incident to the Director. The report must include:

- (1) Name, address, and telephone number of the generator;
- (2) Date, time, and type of incident (*e.g.*, fire, explosion);
- (3) Name and quantity of material(s) involved;
- (4) The extent of injuries, if any;
- (5) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- (6) Estimated quantity and disposition of recovered material that resulted from the incident.

Appendix I Section 262 [Reserved]

Section 263.

STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE

Subsection A — General

- § 263.10 Scope.
- § 263.11 EPA identification number.
- § 263.12 Transfer facility requirements.
- § 263.13 Transporter permits

Subsection B — Compliance With the Manifest System and Recordkeeping

- § 263.20 The manifest system.
- § 263.21 Compliance with the manifest.
- § 263.22 Recordkeeping.

Subsection C — Hazardous Waste Discharges

- § 263.30 Immediate action.
- § 263.31 Discharge clean up.

Subsection A -- General

§ 263.10 Scope

(a) These rules establish standards which apply to persons transporting hazardous waste within the State of Arkansas if the transportation requires a manifest under Section 262 of this rule.

(b) These rules do not apply to on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(c) A transporter of hazardous waste must also comply with Section 262, Standards Applicable to Generators of Hazardous Waste, if he:

- (1) Transports hazardous waste into the United States from abroad; or
- (2) Mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

(d) A transporter of hazardous waste that is being imported from or exported to any of the countries listed in Section 262.58(a)(1) for purposes of recovery is subject to this Subsection and to all other relevant requirements of Subsection H of Section Part 262, including, but not limited to, Section 262.84 for movement documents.

(e) All persons who transport hazardous waste in or through any part of the State of Arkansas shall first obtain permits for such activity as required by § 263.13.

(f) The rules in this Section do not apply to transportation during an explosives or munitions emergency response, conducted in accordance with §§ 264.1(g)(8)(i)(D) or (iv) or 265.1(c)(11)(i)(D) or (iv), and 270.1(c)(3)(i)(D) or (iii).

(g) Section 266.203 of this Rule identifies how the requirements of this Section apply to military munitions classified as solid waste under § 266.202.

§ 263.11 EPA identification number

(a) A transporter must not transport hazardous wastes in or through Arkansas without having received an EPA identification number.

(b) A transporter who has not received an EPA identification number may obtain one by applying to the Director (for Arkansas companies) using EPA Form 8700-12 (AR-11-91R)(Notification of Regulated Waste Activity). Upon receiving the request, the Director will assign an EPA identification number to the transporter.

(c) Any person who operates a hazardous waste transfer facility in the State of Arkansas shall first obtain a separate and unique EPA identification number for each transfer facility.

§ 263.12 Transfer facility requirements

(a) A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of § 262.30 at a transfer facility for a period of ten days or less is not subject to rule under Sections 264, 265, 267, 268, and 270 of this Rule with respect to the storage of those wastes.

(b) When consolidating the contents of two or more containers with the same hazardous waste into a new container, or when combining and consolidating two different hazardous wastes that are compatible with each other, the transporter must mark its containers of 119 gallons or less with the following information:

(1) The words “Hazardous Waste” and

(2) The applicable EPA hazardous waste number(s) (EPA hazardous waste codes) in subsections C and D of section 261 of this regulation, or in compliance with § 262.32(c).

§ 263.13 Transporter Permits.

(a) Any person who transports hazardous waste in, from, or through the State of Arkansas shall comply with the permitting and other requirements of the Arkansas Department of Transportation and the Arkansas Motor Carrier Act.

(b) Persons transporting hazardous waste by water or air shall comply with applicable state and federal rules and regulations governing such transportation in addition to the requirements of this Rule.

(c) Persons transporting hazardous waste shall carry a copy of a valid transporter permit in their vehicle, and display it upon request by law enforcement or environmental compliance officers.

Subsection B -- Compliance with the Manifest System and Recordkeeping

§ 263.20 The manifest system

(a)(1) Manifest Requirement. A transporter may not accept hazardous waste from a generator unless the transporter is also provided with a manifest signed in accordance with the requirements of § 262.23.

(2) Exports. For exports of hazardous wastes subject to the requirements of Subsection H of this Regulation Section 262, a transporter may not accept hazardous waste without a manifest signed by the generator in accordance with this section, as appropriate, and for exports occurring under the terms of a consent issued by EPA on or after December 31, 2016, a movement document that includes all information required by § 262.83(d).

(3) Compliance Date for Form Revisions. The revised Manifest form and procedures in 40 CFR §§ 260.10, 261.7, 263.20, and 263.21 had an effective date of September 5, 2006. The Manifest form and procedures in 40 CFR §§ 260.10, 261.7, 263.20, and 263.21, contained in the 40 CFR, parts 260 to 265, edition revised as of July 1, 2004, were applicable until September 5, 2006.

(4) Use of electronic manifest legal equivalence to paper forms for participating transporters. Electronic manifests that are obtained, completed, and transmitted in accordance with § 262.20(a)(3) of part 262, and used in accordance with this section in lieu of EPA Forms 8700-22 and 8700-22A, are the legal equivalent of paper manifest forms bearing handwritten signatures, and satisfy for all purposes any requirement in these rules to obtain, complete, sign, carry, provide, give, use, or retain a manifest.

(i) Any requirement in these rules to sign a manifest or manifest certification by hand, or to obtain a handwritten signature, is satisfied by signing with or obtaining a valid and enforceable electronic signature within the meaning of 40 CFR Part 262.25(a).

(ii) Any requirement in these rules to give, provide, send, forward, or return to another person a copy of the manifest is satisfied when a copy of an electronic manifest is transmitted to the other person by submission to the system.

(iii) Any requirement in these rules for a manifest to accompany a hazardous waste shipment is satisfied when a copy of an electronic manifest is accessible during transportation and forwarded to the person or persons who are scheduled to receive delivery of the waste shipment, except that to the extent that the Hazardous Materials regulation on shipping papers for carriage by public highway requires transporters of hazardous materials to carry a paper document to comply with 49 CFR § 177.817, a hazardous waste transporter must carry one printed copy of the electronic manifest on the transport vehicle.

(iv) Any requirement in these rules for a transporter to keep or retain a copy of a manifest is satisfied by the retention of an electronic manifest in the transporter's account on the e-Manifest system, provided that such copies are readily available for viewing and production if requested by any EPA or authorized state inspector.

(v) No transporter may be held liable for the inability to produce an electronic manifest for inspection under this section if that transporter can demonstrate that the inability to produce the electronic manifest is exclusively due to a technical difficulty

with the EPA system for which the transporter bears no responsibility.

(5) A transporter may participate in the electronic manifest system either by accessing the electronic manifest system from the transporter's own electronic equipment, or by accessing the electronic manifest system from the equipment provided by a participating generator, by another transporter, or by a designated facility.

(6) Special procedures when electronic manifest is not available. If after a manifest has been originated electronically and signed electronically by the initial transporter, and the electronic manifest system should become unavailable for any reason, then:

(i) The transporter in possession of the hazardous waste when the electronic manifest becomes unavailable shall reproduce sufficient copies of the printed manifest that is carried on the transport vehicle pursuant to paragraph (a)(4)(iii)(A) of this section, or obtain and complete another paper manifest for this purpose. The transporter shall reproduce sufficient copies to provide the transporter and all subsequent waste handlers with a copy for their files, plus two additional copies that will be delivered to the designated facility with the hazardous waste.

(ii) On each printed copy, the transporter shall include a notation in the Special Handling and Additional Description space (Item 14) that the paper manifest is a replacement manifest for a manifest originated in the electronic manifest system, shall include (if not pre-printed on the replacement manifest) the manifest tracking number of the electronic manifest that is replaced by the paper manifest, and shall also include a brief explanation why the electronic manifest was not available for completing the tracking of the shipment electronically.

(iii) A transporter signing a replacement manifest to acknowledge receipt of the hazardous waste must ensure that each paper copy is individually signed and that a legible handwritten signature appears on each copy.

(iv) From the point at which the electronic manifest is no longer available for tracking the waste shipment, the paper replacement manifest copies shall be carried, signed, retained as records, and given to a subsequent transporter or to the designated facility, following the instructions, procedures, and requirements that apply to the use of all other paper manifests.

(7) Special procedures for electronic signature methods undergoing tests. If a transporter using an electronic manifest signs this manifest electronically using an electronic signature method which is undergoing pilot or demonstration tests aimed at demonstrating the practicality or legal dependability of the signature method, then the transporter shall sign the electronic manifest electronically and also sign with an ink signature the transporter acknowledgement of receipt of materials on the printed copy of the manifest that is carried on the vehicle in accordance with paragraph (a)(4)(iii)(A) of this section. This printed copy bearing the generator's and transporter's ink signatures shall also be presented by the transporter to the designated facility to sign in ink to indicate the receipt of the waste materials or to indicate discrepancies. After the owner/operator of the designated facility has signed this printed manifest copy with its ink signature, the printed manifest copy shall be delivered to the designated facility with the waste materials.

(8) [Reserved]

(9) Post-receipt manifest data corrections. After facilities have certified to the receipt of hazardous wastes by signing Item 20 of the manifest, any post-receipt data corrections may be

submitted at any time by any interested person (e.g., waste handler) named on the manifest. Transporters may participate electronically in the post-receipt data corrections process by following the process described in § 264.71(l) of this chapter, which applies to corrections made to either paper or electronic manifest records.

(b) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

(c) The transporter must ensure that the manifest accompanies the hazardous waste. In the case of exports occurring under the terms of a consent issued by EPA to the exporter on or after December 31, 2016, the transporter must ensure that a movement document that includes all information required by § 262.83(d) also accompanies the hazardous waste. In the case of imports occurring under the terms of a consent issued by EPA to the country of export or the importer on or after December 31, 2016, the transporter must ensure that a movement document that includes all information required by § 262.84(d) also accompanies the hazardous waste.

(d) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

- (1) Obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest; and
- (2) Retain one copy of the manifest in accordance with § 263.22; and
- (3) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(e) The requirements of paragraphs (c), (d) and (f) of this section do not apply to water (bulk shipment) transporters if:

- (1) The hazardous waste is delivered by water (bulk shipment) to the designated facility; and
- (2) A shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports or imports occurring under the terms of a consent issued by EPA on or after December 31, 2016, a movement document that includes all information required by § 262.83(d) or § 262.84(d) accompanies the hazardous waste; and
- (3) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper; and
- (4) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility; and
- (5) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with § 263.22.

(f) For shipments involving rail transportation, the requirements of paragraphs (c), (d) and (e) do not apply and the following requirements do apply:

- (1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:
 - (i) Sign and date the manifest in the appropriate space acknowledging acceptance of the hazardous waste;
 - (ii) Return a signed copy of the manifest to the non-rail transporter;
 - (iii) Forward at least three copies of the manifest to:

- (A) The next non-rail transporter, if any; or,
- (B) The designated facility, if the shipment is delivered to that facility by rail; or
- (C) The last rail transporter designated to handle the waste in the United States;

(iv) Retain one copy of the manifest and rail shipping paper in accordance with § 263.22.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports or imports occurring under the terms of a consent issued by EPA on or after December 31, 2016, a movement document that includes all information required by § 262.83(d) or § 262.84(d) accompanies the hazardous waste at all times.

Note: Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

- (i) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and
- (ii) Retain a copy of the manifest or signed shipping paper in accordance with § 263.22.

(4) When delivering hazardous waste to a non-rail transporter a rail transporter must:

- (i) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and
- (ii) Retain a copy of the manifest in accordance with § 263.22.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(g) Transporters who transport hazardous waste out of the United States must:

(1) Sign and date the manifest in the International Shipments block to indicate the date that the shipment left the United States;

(2) Retain one copy in accordance with § 263.22(d);

(3) Return a signed copy of the manifest to the generator; and

(4) For paper manifests only;

(i) Send a copy of the manifest to the e-Manifest system in accordance with the allowable methods specified in § 264.71(a)(2)(v); and

(ii) For shipments initiated prior to the AES filing compliance date, when instructed by the exporter to do so, give a copy of the manifest to a U.S. Customs official at the point of departure from the United States.

(h) A transporter transporting hazardous waste from a generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month need not comply with the requirements of this section or those of § 263.22 provided that:

(1) *[Reserved]*

(2) The transporter records, on a log or shipping paper, the following information for each shipment:

- (i) The name, address, and U.S. EPA Identification Number of the generator of the waste;
- (ii) The quantity of waste accepted;
- (iii) All DOT-required shipping information;
- (iv) The date the waste is accepted; and
- (3) The transporter carries this record when transporting waste to the reclamation facility; and
- (4) The transporter retains these records for a period of at least three years after termination or expiration of the agreement.

§ 263.21 Compliance with the manifest

(a) Except as provided in paragraph (b) of this section, the transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to:

- (1) The designated facility listed on the manifest; or
- (2) The alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery; or
- (3) The next designated transporter; or
- (4) The place outside the United States designated by the generator.

(b) (1) Emergency condition. If the hazardous waste cannot be delivered in accordance with paragraph (a)(1),(2), or (4) of this section because of an emergency condition other than rejection of the waste by the designated facility, then the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions.

(2) Transporter without agency authority. If the hazardous waste is not delivered to the next designated transporter in accordance with paragraph (a)(3) of this section, and the current transporter is without contractual authorization from the generator to act as the generator's agent with respect to transporter additions or substitutions, then the current transporter must contact the generator for further instructions prior to making any revisions to the transporter designations on the manifest. The current transporter may thereafter make such revisions if:

- (i) The hazardous waste is not delivered in accordance with paragraph (a)(3) of this section because of an emergency condition; or
- (ii) The current transporter proposes to change the transporter(s) designated on the manifest by the generator, or to add a new transporter during transportation, to respond to an emergency, or for purposes of transportation efficiency, convenience, or safety; and
- (iii) The generator authorizes the revision.

(3) Transporters with agency authority. If the hazardous waste is not delivered to the next designated transporter in accordance with paragraph (a)(3) of this section, and the current transporter has authorization from the generator to act as the generator's agent, then the current transporter may change the transporter(s) designated on the manifest, or add a new transporter, during transportation without the generator's prior, explicit approval, provided that:

- (i) The current transporter is authorized by a contractual provision that provides

explicit agency authority for the transporter to make such transporter changes on behalf of the generator;

(ii) The transporter enters in Item 14 of each manifest for which such a change is made, the following statement of its agency authority: "Contract retained by generator confers agency authority on initial transporter to add or substitute additional transporters on generator's behalf;" and

(iii) The change in designated transporters is necessary to respond to an emergency, or for purposes of transportation efficiency, convenience, or safety.

(4) Generator liability. The grant by a generator of authority to a transporter to act as the agent of the generator with respect to changes to transporter designations under paragraph (b)(3) of this section does not affect the generator's liability or responsibility for complying with any applicable requirement under this chapter, or grant any additional authority to the transporter to act on behalf of the generator.

(c) If hazardous waste is rejected by the designated facility while the transporter is on the facility's premises, then the transporter must obtain the following:

(1) For a partial load rejection or for regulated quantities of container residues, a copy of the original manifest that includes the facility's date and signature, and the Manifest Tracking Number of the new manifest that will accompany the shipment, and a description of the partial rejection or container residue in the discrepancy block of the original manifest. The transporter must retain a copy of this manifest in accordance with § 263.22, and give the remaining copies of the original manifest to the rejecting designated facility. If the transporter is forwarding the rejected part of the shipment or a regulated container residue to an alternate facility or returning it to the generator, the transporter must obtain a new manifest to accompany the shipment, and the new manifest must include all of the information required in § 264.72(e)(1) through (6) or (f)(1) through (6) or § 265.72(e)(1) through (6) or (f)(1) through (6).

(2) For a full load rejection that will be taken back by the transporter, a copy of the original manifest that includes the rejecting facility's signature and date attesting to the rejection, the description of the rejection in the discrepancy block of the manifest, and the name, address, phone number, and Identification Number for the alternate facility or generator to whom the shipment must be delivered. The transporter must retain a copy of the manifest in accordance with § 263.22, and give a copy of the manifest containing this information to the rejecting designated facility. If the original manifest is not used, then the transporter must obtain a new manifest for the shipment and comply with § 264.72(e)(1) through (6) or § 265.72(e)(1) through (6).

§ 263.22 Recordkeeping

(a) A transporter of hazardous waste must keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(b) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk

shipment) transporter must retain a copy of the shipping paper containing all the information required in § 263.20(e)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(c) For shipments of hazardous waste by rail within the United States:

(1) The initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in § 263.20(f)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter; and

(2) The final rail transporter must keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(d) A transporter who transports hazardous waste out of the United States must keep a copy of the manifest indicating that the hazardous waste left the United States for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(e) The periods of retention referred to in this Section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Director.

§ 263.25 Electronic Manifest Signatures

(a) Electronic manifest signatures shall meet the criteria described in 40 CFR § 262.25(a).

(b) [Reserved]

Subsection C -- Hazardous Waste Discharges

§ 263.30 Immediate Action

(a) In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area).

(b) If a discharge of hazardous waste occurs during transportation and an official (State or local government or a Federal Agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers and without the preparation of a manifest.

(c) An air, rail, highway, or water transporter who has discharged hazardous waste in the State of Arkansas must:

(1) Give immediate notice to the Arkansas State Police and to the principal office or designated contact for the transporter.

(2) Give notice, if required by 49 CFR 171.15, to the National Response Center (800-424-8802 or 202-426-2675); and

(3) Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.

(4) Submit a copy of the written report required by 49 CFR 171.16 and 263.30(c)(2) to

DEQ simultaneously with its submission to the federal Department of Transportation.

(d) A water (bulk shipment) transporter who has discharged hazardous waste must give the same notice as required by 33 CFR 153.203 for oil and hazardous substances.

§ 263.31 Discharge clean-up

A transporter must clean up any hazardous waste spill or discharge that occurs during transportation or take such action as may be required or approved by Federal, State, or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

Section 264.

STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

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- Appendix I — Recordkeeping Instructions
- Appendices II — III [Reserved]
- Appendix IV — Cochran's Approximation to the Behrens-Fisher Students' T-test
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- Appendix VI — Political Jurisdictions in Which Compliance With § 264.18(a) Must Be Demonstrated.
- Appendices VII — VIII [Reserved]
- Appendix IX — Groundwater Monitoring List

Subsection A -- General

§ 264.1 Purpose, scope, and applicability

(a) The purpose of this Section is to establish minimum standards which define the acceptable management of hazardous waste.

(b) The standards in this Section apply to owners and operators of all facilities which treat, store, or dispose of hazardous waste, except as specifically provided otherwise in this Section or Section 261 of this rule.

(c) The requirements of this Section apply to a person disposing of hazardous waste by means of ocean disposal subject to a federal permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included in a RCRA permit by rule granted to such a person under 40 CFR Part 270 and this Section.

[Comment: These Section 264 rules do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.]

(d) The requirements of this Section apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act only to the extent they are required by 40 CFR 144.14.

[Comment: These Section 264 rules do apply to the above-ground treatment or storage of hazardous waste before it is injected underground.]

(e) The requirements of this Section apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a RCRA permit by rule granted to such a person under Section 270 of this rule.

(f) [Reserved]

(g) The requirements of this Section do not apply to:

(1) The owner or operator of a facility permitted, licensed, or registered by the State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from rule under this Section by § 262.14 of this rule;

(2) The owner or operator of a facility managing recyclable materials described in § 261.6(a) (2), (3) and (4) of this rule (except to the extent that requirements of this Section are referred to in Section 279 or Subsections C, F, or G of Section 266 of this rule).

(3) A generator accumulating waste on-site in compliance with §§ 262.14, 262.15, 262.16, or 262.17 of this rule;

(4) A farmer disposing of waste pesticides from his own use in compliance with § 262.70 of this rule; or

(5) The owner or operator of a totally enclosed treatment facility, as defined in § 260.10.

(6) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in § 260.10 of this rule, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in § 268.40, Table Treatment Standards for Hazardous Wastes, of this rule), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in § 264.17(b).

(7) [Reserved]

(8)(i) Except as provided in paragraph (g)(8)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste;

(D) An immediate threat to human health, public safety, property, or the environment, from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in § 260.10.

(ii) An owner or operator of a facility otherwise regulated by this Section must comply with all applicable requirements of Subsections C and D.

(iii) Any person who is covered by paragraph (g)(8)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this Section for those activities.

(iv) In the case of an explosives or munitions emergency response, if a Federal, State, Tribal or local official acting within the scope of his or her official responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have EPA identification numbers and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition.

(9) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of § 262.30 at a transfer facility for a total period of ten days or less.

(10) The addition of absorbent material to waste in a container (as defined in § 260.10 of this rule) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and §§ 264.17(b), 264.171, and 264.172 are complied with.

(11) Universal waste handlers and universal waste transporters (as defined in § 260.10) handling the wastes listed below. These handlers are subject to under § 273, when handling the below listed universal wastes.

(i) Batteries as described in § 273.2;

(ii) Pesticides as described in § 273.3 of this rule;

(iii) Mercury-containing devices as described in § 273.4 of this rule;

(iv) Lamps as described in § 273.5 of this rule; and

(v) *Consumer electronic items as described in § 273.6.*

(h) The requirements of this Section apply to owners or operators of all facilities which treat, store, or dispose of hazardous wastes referred to in Section 268.

(i) Section 266.205 of this rule identifies when the requirements of this Section apply to the storage of military munitions classified as solid waste under § 266.202 of this rule. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in Sections 260 through 270.

(j) The requirements of subsections B, C, and D of this Section and § 264.101 do not apply to remediation waste management sites. (However, some remediation waste management sites may be a part of a facility that is subject to a traditional RCRA permit because the facility is also treating, storing or disposing of hazardous wastes that are not remediation wastes. In these cases, Subsections B, C, and D of this Section, and § 264.101 do apply to the facility subject to the traditional RCRA permit.) Instead of the requirements of subsections B, C, and D of this Section, owners or operators of remediation waste management sites must:

(1) Obtain an EPA identification number by applying to the Director using Arkansas/EPA Form 8700-12;

(2) Obtain a detailed chemical and physical analysis of a representative sample of the hazardous remediation wastes to be managed at the site. At a minimum, the analysis must contain all of the information which must be known to treat, store or dispose of the waste according to this part and Section 268 of this rule, and must be kept accurate and up to date;

(3) Prevent people who are unaware of the danger from entering, and minimize the possibility for unauthorized people or livestock to enter onto the active portion of the remediation waste management site, unless the owner or operator can demonstrate to the Director that:

(i) Physical contact with the waste, structures, or equipment within the active portion of the remediation waste management site will not injure people or livestock who may enter the active portion of the remediation waste management site; and

(ii) Disturbance of the waste or equipment by people or livestock who enter onto the active portion of the remediation waste management site, will not cause a violation of the requirements of this part;

(4) Inspect the remediation waste management site for malfunctions, deterioration, operator errors, and discharges that may be causing, or may lead to, a release of hazardous waste constituents to the environment, or a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment, and must remedy the problem before it leads to a human health or environmental hazard. Where a hazard is imminent or has already occurred, the owner/operator must take remedial action immediately;

(5) Provide personnel with classroom or on-the-job training on how to perform their duties in a way that ensures the remediation waste management site complies with the requirements of this part, and on how to respond effectively to emergencies;

(6) Take precautions to prevent accidental ignition or reaction of ignitable or reactive waste, and prevent threats to human health and the environment from ignitable, reactive and incompatible waste;

(7) For remediation waste management sites subject to regulation under subsections I through O and subsection X of this section, the owner/operator must design, construct, operate, and maintain a unit within a 100-year floodplain to prevent washout of any hazardous waste by a 100-year flood, unless the owner/operator can meet the demonstration of § 264.18(b);

(8) Not place any non-containerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave;

(9) Develop and maintain a construction quality assurance program for all surface impoundments, waste piles and landfill units that are required to comply with §§ 264.221(c) and (d), 264.251(c) and (d), and 264.301(c) and (d) at the remediation waste management

site, according to the requirements of § 264.19;

(10) Develop and maintain procedures to prevent accidents and a contingency and emergency plan to control accidents that occur. These procedures must address proper design, construction, maintenance, and operation of remediation waste management units at the site. The goal of the plan must be to minimize the possibility of, and the hazards from a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment. The plan must explain specifically how to treat, store and dispose of the hazardous remediation waste in question, and must be implemented immediately whenever a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment;

(11) Designate at least one employee, either on the facility premises or on call (that is, available to respond to an emergency by reaching the facility quickly), to coordinate all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan;

(12) Develop, maintain and implement a plan to meet the requirements in paragraphs (j)(2) through (j)(6) and (j)(9) through (j)(10) of this section; and

(13) Maintain records documenting compliance with paragraphs (j)(1) through (j)(12) of this section.

§ 264.2 [Reserved]

§ 264.3 Relationship to interim status standards

A facility owner or operator who has fully complied with the requirements for interim status — as defined in section 3005(e) of RCRA and regulations under § 270.70 of this rule — must comply with the rules specified in Section 265 of this rule in lieu of the rules in this Section, until final administrative disposition of his permit application is made, except as provided under Subsection S of this Section.

[Comment: As stated in section 3005(a) of RCRA, after the effective date of regulations under that section, i.e., Sections 270 of this rule and 40 CFR 124, the treatment, storage, or disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility which meets certain conditions until final administrative disposition of the owner's or operator's permit application is made.]

§ 264.4 Imminent hazard action

Notwithstanding any other provisions of these rules, enforcement actions may be brought pursuant to section 7003 of RCRA, the Arkansas Hazardous Waste Management Act (A.C.A. §§ 8-7-201 *et seq.*, and the Arkansas Remedial Action Trust Fund Act (A.C.A. §§ 8-7-501 *et seq.*).

Subsection B -- General Facility Standards

§ 264.10 Applicability

(a) The rules in this Subsection apply to owners and operators of all hazardous waste facilities, except as provided in § 264.1 and in paragraph (b) of this section.

(b) Section 264.18(b) applies only to facilities subject to regulation under Subsections I through O and Subsection X of this Section.

§ 264.11 Identification number

Every facility owner or operator must apply to the Division for an EPA identification number in accordance with the Division's and EPA's notification procedures.

§ 264.12 Required notices

(a) The owner or operator of a facility that is arranging or has arranged to receive hazardous waste subject to Rule No. 23 section 262, subsection H from a foreign source must submit the following required notices:

(1) As per § 262.84(b), for imports where the competent authority of the country of export does not require the foreign exporter to submit to it a notification proposing export and obtain consent from EPA and the competent authorities for the countries of transit, such owner or operator of the facility, if acting as the importer, must provide notification of the proposed transboundary movement in English to EPA using the allowable methods listed in § 262.84(b)(1) at least 60 days before the first shipment is expected to depart the country of export. The notification may cover up to one year of shipments of wastes having similar physical and chemical characteristics, the same United Nations classification, the same RCRA waste codes and OECD waste codes, and being sent from the same foreign exporter.

(2) As per § 262.84(d)(2)(xv), a copy of the movement document bearing all required signatures within three (3) working days of receipt of the shipment to the foreign exporter; to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original of the signed movement document must be maintained at the facility for at least three (3) years. The owner or operator of a facility may satisfy this recordkeeping requirement by retaining electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No owner or operator of a facility may be held liable for the inability to produce the documents for inspection under this section if the owner or operator of a facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system for which the owner or operator of a facility bears no responsibility.

(3) As per § 262.84(f)(4), if the facility has physical control of the waste and it must be sent to an alternate facility or returned to the country of export, such owner or operator of the facility must inform EPA, using the allowable methods listed in § 262.84(b)(1) of the need to return or arrange alternate management of the shipment.

(4) As per § 262.84(g), such owner or operator shall:

(i) Send copies of the signed and dated confirmation of recovery or disposal, as soon as possible, but no later than thirty days after completing recovery or disposal on the waste in the shipment and no later than one calendar year following receipt of the waste, to the foreign exporter, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and for shipments recycled or disposed of on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

(ii) If the facility performed any of recovery operations R12, R13, or RC16, or disposal operations D13 through D15, or DC17, promptly send copies of the confirmation of recovery or disposal that it receives from the final recovery or disposal facility within one year of shipment delivery to the final recovery or disposal facility that performed one of recovery operations R1 through R11, or RC16, or one of disposal operations D1 through D12, or DC15 to DC16, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The recovery and disposal operations in this paragraph are defined in § 262.81.

(b) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

(c) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this Section and Section 270 of this rule.

[Comment: An owner's or operator's failure to notify the new owner or operator of the requirements of this Section in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.]

§ 264.13 General waste analysis

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under § 264.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this Section and Section 268 of this rule. *As a minimum, this analysis shall include a detailed waste characterization by a commercial facility for at least 10% of the waste handled for each generator of more than 1000 kg of hazardous waste who ships waste to the facility.*

(2) The analysis may include data developed under Section 261 of this rule, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

[Comment: For example, the facility's records of analyses performed on the waste before the effective date of these rules, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply Section of the information required by paragraph (a)(1) of this section, except as otherwise specified in § 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

- (i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), has changed; and
 - (ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.
- (4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.
- (b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section. He must keep this plan at the facility. At a minimum, the plan must specify:
 - (1) The parameters for which each hazardous waste, or non-hazardous waste if applicable under § 264.113(d), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section);
 - (2) The test methods which will be used to test for these parameters;
 - (3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:
 - (i) One of the sampling methods described in Appendix I of Section 261 of this rule;
 - or
 - (ii) An equivalent sampling method.

[Comment: See § 260.21 of this rule for related discussion.]

 - (4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date; and
 - (5) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.
 - (6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 264.17, 264.314, 264.341, 264.1034(d), 264.1063(d), 264.1083, and 268.7 of this rule.
 - (7) For surface impoundments exempted from land disposal restrictions under § 268.4(a), the procedures and schedules for:
 - (i) The sampling of impoundment contents;
 - (ii) The analysis of test data; and,
 - (iii) The annual removal of residues which are not delisted under 40 CFR Part 260.22 or which exhibit a characteristic of hazardous waste and either:
 - (A) Do not meet applicable treatment standards of Section 268, Subsection D; or
 - (B) Where no treatment standards have been established;
 - (1) Such residues are prohibited from land disposal under § 268.32 or RCRA section 3004(d); or
 - (2) Such residues are prohibited from land disposal under § 268.33(f).
 - (8) For owners and operators seeking an exemption to the air emission standards of subsection CC in accordance with § 264.1082—
 - (i) If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the analysis of test data to verify the exemption.

(ii) If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(3) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

[Comment: Section 270 of this rule requires that the waste analysis plan be submitted with Part B of the permit application.]

§ 264.14 Security

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless he can demonstrate to the Director that:

(1) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this Section.

[Comment: Section 270 of this rule requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

(b) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (2) of this section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Comment: The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (2) of this section.]

(c) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (2) of this section, a sign with the legend, “*Danger — Unauthorized Personnel Keep Out*”, must be posted at each entrance to the active portion of a facility, and at other locations, in

sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than “*Danger — Unauthorized Personnel Keep Out*” may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[Comment: See § 264.117(b) for discussion of security requirements at disposal facilities during the post-closure care period.]

§ 264.15 General Inspection requirements

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing — or may lead to — (1) release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies called for in §§ 264.174, 264.193, 264.195, 264.226, 264.254, 264.278, 264.303, 264.347, 264.602, 264.1033, 264.1052, 264.1053, 264.1058, and 264.1083 through 264.1089 of this Section, where applicable. Section 270 of this rule requires the inspection schedule to be submitted with part B of the permit application. The Director will evaluate the schedule along with the rest of the application to ensure that it adequately protects human health and the environment. As part of this review, the Director may modify or amend the schedule as may be necessary.

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

§ 264.16 Personnel training

(a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this Section. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

[Comment: Section 270 of this rule requires that owners and operators submit with Part B of the RCRA permit application, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.]

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- (i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- (ii) Key parameters for automatic waste feed cut-off systems;
- (iii) Communications or alarm systems;
- (iv) Response to fires or explosions;
- (v) Response to ground-water contamination incidents; and
- (vi) Shutdown of operations.

(4) For facility employees receiving emergency response training pursuant to OSHA regulations facility not required to provide separate emergency response training

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the effective date of these rules or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these rules must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility; training

records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

(f) Certification of Hazardous Waste Facility Operators. In addition to the requirements of §§ 264.15, 264.16, and 264.55, the following provisions shall be complied with:

(1) No commercial hazardous waste management facility shall be caused or permitted to operate unless at least one person certified by the Division in accordance with the provisions of subsection (2) below, is on duty, or on 15 minutes call, at all times the facility is being operated. Depending upon the size and complexity of the facility, the Division may require, as a condition of permit, one or more certified operators to be on duty at all times the facility is in operation.

(2) No person shall be certified by the Division at being qualified to serve as an operator of a commercial hazardous waste management facility unless the person is found to have the following qualifications:

(i) Is physically capable of performing all tasks reasonably expected of supervisory personnel;

(ii) Has a baccalaureate degree in engineering, physical science, health sciences, or related disciplines or four years of significant demonstrated experience in such fields;

(iii) Has at least four additional years experience in management, engineering, or in conducting chemical/physical analysis;

(iv) Has a working familiarity with the principles and requirements relative to industrial hygiene, worker safety, emergency procedures and environmental protection as such principles and requirements relate to the nature of the hazardous waste managed at the facility in which said person is to have, or does have, supervisory responsibility and as such principles and requirements relate to the type storage, treatment and/or disposal in such facility;

(v) Has a basic knowledge of the principles of operation and standard operating procedures for all equipment used in the facility in which said person is to have, or has, supervisory responsibility; and

(vi) Is a citizen of the United States, of good moral character with no prior conviction of a felony or a crime of moral turpitude.

(3) No employee of a hazardous waste management facility shall be assigned the duties of transferring, handling, sorting, mixing, treating or disposing of hazardous waste unless that employee meets the requirements set out in § 264.16 (a), (b) and (c).

(4) No employee of a hazardous waste management facility shall be assigned the duties of transferring, handling, sorting, mixing, treating or disposing of hazardous waste unless that employee has demonstrated his/her capabilities of:

(i) Reading and comprehending label instructions, operational procedures, contingency plans and regulatory directives;

(ii) Understanding the basic nature of the materials which he/she is assigned to transfer, handle, sort, mix, treat or dispose relative to the material's reactivity, toxicity, explosiveness and flammability; and

(iii) Operating all equipment which he is assigned to operate, including personal safety and emergency equipment.

(5) The owner or operator of a hazardous waste management facility must maintain the records required in § 264.16(d).

- (6) *Owners and/or operators of commercial hazardous waste management facilities shall:*
- (i) Maintain complete updated records of all workers assigned to a specific job including name, address, date of starting specific job and date of termination of specific job;*
 - (ii) Maintain a complete previous employment history and a complete job mobility history within the facility kept for each employee;*
 - (iii) Have their personnel trained in contingency procedures as prescribed in the facility's contingency plan, which plan has been submitted and approved pursuant to this rule;*
 - (iv) Have their personnel take part in a semiannual review and update of their initial training in contingency procedures and other hazardous waste management procedures relevant to those operations at which they are employed; and*
 - (v) Have each of their personnel undergo an annual health physical and said personnel's spouses shall be offered an annual health physical, the specifics of which are deemed appropriate by the Division, including health histories, reproductive history and health histories of all offspring, with records of each of these physicals available to the Division upon request with the written consent of the individual. Consent will be given on a waiver form approved by the Division written in such a fashion as to allow dissemination of information to the Division or to authorized representatives designated in writing by the Division.*
- (7) *The owner or operator of a hazardous waste management facility shall promptly modify the training required of its employees whenever required to do so upon the direction of the Division or whenever modification in training is required as a condition of permit; provided, however, that preliminary training, approved by the Division, will have been completed prior to commencement of operation of a new hazardous waste management facility or prior to commencement of an operation in an existing facility for which a permit has been issued or modified.*

§ 264.17 General requirements for ignitable, reactive, or incompatible wastes

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of this Section, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:

- (1) Generate extreme heat or pressure, fire or explosions, or violent reactions;
- (2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
- (3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- (4) Damage the structural integrity of the device or facility;

(5) Through other like means threaten human health or the environment.

(c) When required to comply with paragraph (a) or (b) of this section, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in § 264.13), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

§ 264.18 Location standards

(a) Seismic considerations. (1) Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time.

(2) As used in paragraph (a)(1) above:

(i) "Fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(iii) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene to the present.

[Comment: Procedures for demonstrating compliance with this standard in Part B of the permit application are specified in § 270.14(b)(11). Facilities which are located in political jurisdictions other than those listed in Appendix VI of this Section, are assumed to be in compliance with this requirement.]

(b) Floodplains. (1) A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood, unless the owner or operator can demonstrate to the Director's satisfaction that:

(i) Procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters; or

(ii) For existing surface impoundments, waste piles, land treatment units, landfills, and miscellaneous units, no adverse effects on human health or the environment will result if washout occurs, considering:

(A) The volume and physical and chemical characteristics of the waste in the facility;

(B) The concentration of hazardous constituents that would potentially affect surface waters as a result of washout;

(C) The impact of such concentrations on the current or potential uses of and water quality standards established for the affected surface waters; and

(D) The impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

[Comment: The location where wastes are moved must be a facility which is either permitted by the Division under Section 270 of this rule or in interim status under Sections 270 and 265 of this rule.]

(2) As used in paragraph (b)(1) of this section:

(i) "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

(ii) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(iii) "100-year flood" means a flood that has a one percent chance of being equalled or

exceeded in any given year.

(c) Salt dome formations, salt bed formations, underground mines and caves. The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited.

Additional State Siting Criteria for Arkansas Facilities:

(d) No permit shall be issued for a new hazardous waste management facility in which the factor or combination of factors, set forth in Subsections (1), (2), (3), (4), and (5) below exist except where the applicant can affirmatively demonstrate and the Division specifically finds that the location of such facilities in those areas would not constitute a risk to the public health or environment:

(1) An active fault zone;

(2) A "regulatory floodway" as adopted by communities participating in the National Flood Program managed by the Federal Emergency Management Administration and the Arkansas Soil and Water Conservation Commission;

(3) A 100-year floodplain;

(4) A recharge zone of a sole source aquifer designated pursuant to § 1424 (e) of the Safe Drinking Water Act (PL93-532);

(5) "Wetland areas" which are inundated or saturated by surface water or groundwater at a frequency and duration to support, and under normal circumstances to support or would support vegetation typically adapted for life in saturated soil conditions;

(e) No permit shall be issued for a hazardous waste landfill facility or surface impoundment if such facility is located in any area in which the Division shall find that a geologic or pedologic factor, or combination of factors, including but not confined to those enumerated in Subsections (1), (2), (3), (4), and (5) below, would create any unacceptable risk to the public health or safety due to the nature, design, and/or operation of the facility described in the permit application:

(1) Areas of high earthquake potential; or

(2) Areas having a soil which would be classified as vertisol or as having a subgroup modifier of vertic by the criteria of the Soil Conservation Service of the U.S. Department of Agriculture; or

(3) Areas in which a stratum of limestone or similar rock of an average thickness of more than 1 meter (3 feet) shall lie within 30 meters (99 feet) of the base of the proposed liner system as described in the application for permit; or

(4) Areas in which the bottom of the landfill's or impoundment's liner system or in-place soil barrier is less than 10 feet above the historically high water table; or

(5) Where the proximity of a functioning private or public water supply in relationship to any active portion of the facility would constitute an unacceptable risk to the public health or safety.

(f) No permit shall be issued for the construction or operation of a new commercial hazardous waste landfill if the active portions of such facility are located within one half (1/2) mile of any occupied dwelling, church, school, hospital, or similarly occupied structure at the time the initial permit application is submitted to the Division by the applicant unless the nature and amounts of hazardous wastes are limited by conditions of permit in such a manner that the applicant can affirmatively demonstrate and the Division finds that a lesser distance will provide adequate margins of safety even under abnormal operating conditions.

(g) No permit shall be issued for a hazardous waste management facility in which the Division shall find that factors or combination of factors, including but not confined to Subsections (1) and (2) below, would create an unacceptable risk to the public health or safety due to the nature, design and/or operation of the facility described in the permit application.

(1) The area and configuration of the facility's property is such that the distance between active portions of the facility and the facility's property line is less than 200 feet;

(2) The active portions of such facility are located less than 300 feet from the right-of-way for:

(i) a public road;

(ii) pipelines carrying natural gas, fuel oils, or chemicals, excluding service lines to the facility;

(iii) water and wastewater line, other than the service lines to the facility; and

(iv) power transmission lines, other than service lines to the facility.

(h) No permit shall be issued for the construction or operation of a new hazardous waste management facility unless the location of said facility is such that all performance standards set forth in this Rule can be met.

(i) The provisions of this subsection shall not apply to treatment facilities which began operation prior to the date of enactment of the Act which have an existing operating permit from the Division, or to any subsequent modifications to such facilities, provided that the owner of such facility demonstrates that such modifications do not materially increase that degree of hazards associated with such facility.

§ 264.19 Construction quality assurance program

(a) CQA program. (1) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with §§ 264.221 (c) and (d), 264.251 (c) and (d), and 264.301 (c) and (d). The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer *who is an Arkansas-registered professional engineer.*

(2) The CQA program must address the following physical components, where applicable:

(i) Foundations;

(ii) Dikes;

(iii) Low-permeability soil liners;

(iv) Geomembranes (flexible membrane liners);

(v) Leachate collection and removal systems and leak detection systems; and

(vi) Final cover systems.

(b) Written CQA plan. The owner or operator of units subject to the CQA program under paragraph (a) of this section must develop and implement a written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:

(1) Identification of applicable units, and a description of how they will be constructed.

(2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(3) A description of inspection and sampling activities for all unit components identified in paragraph (a)(2) of this section, including observations and tests that will be used before,

during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover: Sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under § 264.73.

(c) Contents of program. (1) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

(i) Structural stability and integrity of all components of the unit identified in paragraph (a)(2) of this section;

(ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;

(iii) Conformity of all materials used with design and other material specifications under §§ 264.221, 264.251, and 264.301.

(2) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of §§ 264.221(c)(1)(i)(B), 264.251(c)(1)(i)(B), and 264.301(c)(1)(i)(B) in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The Director may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of §§ 264.221(c)(1)(i)(B), 264.251 (c)(1)(i)(B), and 264.301(c)(1)(i)(B) in the field.

(d) Certification. Waste shall not be received in a unit subject to § 264.19 until the owner or operator has submitted to the Director by certified mail or hand delivery a certification signed by the CQA officer that the approved CQA plan has been successfully carried out and that the unit meets the requirements of §§ 264.221 (c) or (d), 264.251 (c) or (d), or 264.301 (c) or (d); and the procedure in § 270.30(l)(2)(ii) of this Rule has been completed. Documentation supporting the CQA officer's certification must be furnished to the Director upon request.

§264.20 State-specific Performance Standards

(a) In addition to the provisions of §§ 264, 265, and 270 and the other provisions of this Rule, the following standards apply to hazardous waste management facilities:

(1) The capacity of hazardous waste storage facilities associated with a treatment facility shall not exceed a volume equal to ninety (90) times the permitted daily processing rate of the treatment process, unless 1) the Division shall find that a lesser volume is required to provide adequate protection of public health and safety; or 2) the applicant shall affirmatively demonstrate and the Division finds that such a restriction shall unduly inhibit the use of the most acceptable method or methods available for treatment.

(2) The requirements of subsection (a) (1) of this section shall not apply to wastewater treatment facilities which are designed and operated to meet state and federal water pollution control regulations.

(3) Each facility shall be designed to operate and shall be operated in such a manner that emissions from the facility will comply with the provisions of the Arkansas Hazardous Waste Management Act of 1979, as amended, the provisions of this Rule and all applicable state and federal standards concerning air and water quality and that the transfer, handling and

storage of materials will not violate state and federal standards concerning worker safety or create unreasonable hazards to the environment or to the health and welfare of the people living and working in or near such facility; and

(4) When it is technically feasible that destruction of the waste can be accomplished by incineration utilizing currently available technology, no acutely hazardous waste shall be disposed of in landfills in the State of Arkansas unless the applicant can demonstrate that the waste is not included in Class I high hazard materials as defined in the Chemical Manufacturers Association's "A System for Management of Hazardous Waste by Degree of Hazard Under Subtitle "C" of RCRA" dated July 30, 1979 or as revised or amended thereto after approval by the Commission.

(b) Incineration will be deemed technically feasible by the Director for destruction of all acutely hazardous materials for which disposal in landfills is not allowed unless:

(1) the generator or the disposer can demonstrate to the satisfaction of the Director that incineration is not technically feasible;

(2) it is generally accepted by the scientific community that incineration would not be technically feasible or that incineration would not produce the desired results;

(3) incineration would not appreciably reduce the degree of hazard; or the toxicity of the waste results primarily from inorganic materials which are not destroyed by incineration.

(c) The Director may give a waiver to paragraph (a)(4) above if it can be demonstrated to his satisfaction that a process other than incineration is available and will be used that would destroy or permanently immobilize the hazardous components of the waste prior to landfilling.

(d) The following materials shall not be disposed of in landfills permitted under this Rule and Rule No. 22:

(1) Bulk liquids, semisolids and sludges unless, before disposal, such waste is treated or stabilized into cement-like material.

(2) Containers holding free liquids unless all freestanding liquid has been removed or treated or stabilized into cement-like material; or the container is very small, such as an ampule, or is a lab pack as defined in § 264.316 or §265.316, as applicable and is disposed of in accordance with 264.316 or 265.316 as applicable.

(3) Municipal refuse which is not hazardous waste.

(4) Ignitable wastes in containers, unless all free liquids therein have been removed or treated and stabilized into cement-like material.

Subsection C -- Preparedness and Prevention

§ 264.30 Applicability

The rules in this Subsection apply to owners and operators of all hazardous waste facilities, except as § 264.1 provides otherwise.

§ 264.31 Design and operation of facility

Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

§ 264.32 Required equipment

All facilities must be equipped with the following, unless it can be demonstrated to the Director that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

- (a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
- (b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;
- (c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and
- (d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

[Comment: Section 270 of this rule requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

§ 264.33 Testing and maintenance of equipment

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

§ 264.34 Access to communications or alarm system

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the Director has ruled that such a device is not required under § 264.32.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless the Director has ruled that such a device is not required under § 264.32.

§ 264.35 Required aisle space

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the Director that aisle space is not needed for any of these purposes.

[Comment: Section 270 of this rule requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

§ 264.36 [Reserved]

§ 264.37 Arrangements with local authorities

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these

organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subsection D -- Contingency Plan and Emergency Procedures

§ 264.50 Applicability

The rules in this Subsection apply to owners and operators of all hazardous waste facilities, except as § 264.1 provides otherwise.

§ 264.51 Purpose and implementation of contingency plan

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

§ 264.52 Content of contingency plan

(a) The contingency plan must describe the actions facility personnel must take to comply with §§ 264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR Part 112, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Section. The owner or operator may develop one contingency plan which meets all regulatory requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan"). When modifications are made to non-RCRA provisions in an integrated

contingency plan, the changes do not trigger the need for a RCRA permit modification.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to § 264.37.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see § 264.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the Director at the time of certification, rather than at the time of permit application.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

§ 264.53 Copies of contingency plan

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

[Comment: The contingency plan must be submitted to the Director with Part B of the permit application under Section 270, of this rule and, after modification or approval, will become a condition of any permit issued.]

§ 264.54 Amendment of contingency plan

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) The facility permit is revised;

(b) The plan fails in an emergency;

(c) The facility changes — in its design, construction, operation, maintenance, or other circumstances — in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

§ 264.55 Emergency coordinator

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records

within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[Comment: The emergency coordinator's responsibilities are more fully spelled out in § 264.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]

§ 264.56 Emergency procedures

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll free number, 1-800-424-8802). The report must include:

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g., release, fire);

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material

that results from a release, fire, or explosion at the facility.

[Comment: Unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this rule, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Sections 262, 263, and 264 of this rule.]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

- (1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and
- (2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Director. The report must include:

- (1) Name, address, and telephone number of the owner or operator;
- (2) Name, address, and telephone number of the facility;
- (3) Date, time, and type of incident (e.g., fire, explosion);
- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- (7) Estimated quantity and disposition of recovered material that resulted from the incident.

Subsection E -- Manifest System, Recordkeeping, and Reporting

§ 264.70 Applicability

(a) The rules in this Subsection apply to owners and operators of both on-site and off-site facilities, except as § 264.1 provides otherwise. Sections 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, and to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements under Section 266.203(a) of this rule.

(b) The revised Manifest form and procedures in 40 CFR and Sections 260.10, 261.7, 264.70, 264.71, 264.72, and 264.76 of this Rule, shall not apply until September 5, 2006. The Manifest form and procedures in 40 CFR 260.10, 261.7, 264.70, 264.71, 264.72, and 264.76, contained in the 40 CFR, parts 260 to 265, edition revised as of July 1, 2004, shall be applicable until September 5, 2006.

§ 264.71 Use of manifest system

(a)(1) If a facility receives hazardous waste accompanied by a manifest, the owner, operator or his/her agent must sign and date the manifest as indicated in paragraph (a)(2) to certify that the hazardous waste covered by the manifest was received, that the hazardous waste was received except as noted in the discrepancy space of the manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space.

(2) If a facility receives a hazardous waste shipment accompanied by a manifest, the owner, operator or his agent must:

- (i) Sign and date each copy of the manifest;

- (ii) Note any discrepancies (as defined in § 264.72(a)) on each copy of the manifest;
- (iii) Immediately give the transporter at least one copy of the manifest;
- (iv) Within 30 days of delivery, send a copy (Page 2) of the manifest to the generator;
- (v) Paper manifest submission requirements are:

(A) Options for compliance on June 30, 2018. Beginning on June 30, 2018, send the top copy (Page 1) of any paper manifest and any paper continuation sheet to the EPA's e-Manifest system for purposes of data entry and processing, or in lieu of submitting the paper copy to EPA, the owner or operator may transmit to the EPA system an image file of Page 1 of the manifest and any continuation sheet, or both a data file and image file corresponding to Page 1 of the manifest and any continuation sheet, within 30 days of the date of delivery. Submissions of copies to the e-Manifest system shall be made at the mailing address or electronic mail/submission address specified at the e-Manifest program website's directory of services. Beginning on June 30, 2021, EPA will not accept mailed paper manifests from facilities for processing in e-Manifest.

(B) Options for compliance on June 30, 2021. Beginning on June 30, 2021, the requirement to submit the top copy (Page 1) of the paper manifest and any paper continuation sheet to the e-Manifest system for purposes of data entry and processing may be met by the owner or operator only by transmitting to the EPA system an image file of Page 1 of the manifest and any continuation sheet, or by transmitting to the EPA system both a data file and the image file corresponding to Page 1 of the manifest and any continuation sheet, within 30 days of the date of delivery. Submissions of copies to the e-Manifest system shall be made to the electronic mail/submission address specified at the e-Manifest program website's directory of services; and

- (vi) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(3) The owner or operator of a facility receiving hazardous waste subject to section 262, subsection H from a foreign source must:

(i) Additionally list the relevant consent number from consent documentation supplied by EPA to the facility for each waste listed on the manifest, matched to the relevant list number for the waste from block 9b. If additional space is needed, the owner or operator should use a Continuation Sheet(s) (EPA Form 8700-22A); and

(ii) Send a copy of the manifest within thirty (30) days of delivery to EPA using the addresses listed in § 262.82(e) until the facility can submit such a copy to the e-Manifest system per paragraph (a)(2)(v) of this section.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in § 264.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

[Comment: The Division and EPA do not intend that the owner or operator of a facility whose procedures under § 264.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 264.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) Within 30 days after the delivery, send a copy of the signed and dated manifest or a signed and dated copy of the shipping paper (if the manifest has not been received within 30 days after delivery) to the generator, and

[Comment: Section 262.23(c) of this rule requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).]

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of Section 262 of this rule. The provisions of §§ 262.15, 262.16, and 262.17 of this rule are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of §§ 262.15, 262.16, and 262.17 of this rule only apply to owners or operators who are shipping hazardous waste which they generated at that facility or operating as a large quantity generator consolidating hazardous waste from very small quantity generators under § 262.17(f).

(d) As per § 262.84(d)(2)(xv), within three (3) working days of the receipt of a shipment subject to section 262, subsection H, the owner or operator of a facility must provide a copy of the movement document bearing all required signatures to the foreign exporter; to the competent authorities of the countries of export and transit that control the shipment as an export and transit of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original copy of the movement document must be maintained at the facility for at least three (3) years from the date of signature. The owner or operator of a facility may satisfy this recordkeeping requirement by retaining electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No owner or operator of a facility may be held liable for the inability to produce the documents for inspection under this section if the owner or operator of a facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system, for which the owner or operator of a facility bears no responsibility.

(e) Treatment, storage, and disposal facilities shall notify this Division and the Arkansas Highway Police of any unpermitted transporters arriving at their gates or attempting to deliver hazardous waste to their facility.

(f) A facility must determine whether the consignment state for a shipment regulates any additional wastes (beyond those regulated Federally) as hazardous wastes under its state hazardous waste program. Facilities must also determine whether the consignment state or generator state requires the facility to submit any copies of the manifest to these states.

(g) Legal equivalence to paper manifests. Electronic manifests that are obtained, completed, and transmitted in accordance with § 262.20(a)(3), and used in accordance with this section in lieu of the paper manifest form are the legal equivalent of paper manifest forms bearing handwritten signatures, and satisfy for all purposes any requirement in these rules to obtain, complete, sign,

provide, use, or retain a manifest.

(1) Any requirement in these rules for the owner or operator of a facility to sign a manifest or manifest certification by hand, or to obtain a handwritten signature, is satisfied by signing with or obtaining a valid and enforceable electronic signature within the meaning of 40 C.F.R. § 262.25(a).

(2) Any requirement in these rules to give, provide, send, forward, or to return to another person a copy of the manifest is satisfied when a copy of an electronic manifest is transmitted to the other person.

(3) Any requirement in these rules for a manifest to accompany a hazardous waste shipment is satisfied when a copy of an electronic manifest is accessible during transportation and forwarded to the person or persons who are scheduled to receive delivery of the waste shipment.

(4) Any requirement in these rules for an owner or operator to keep or retain a copy of each manifest is satisfied by the retention of the facility's electronic manifest copies in its account on the e-Manifest system, provided that such copies are readily available for viewing and production if requested by any EPA or authorized state inspector.

(5) No owner or operator may be held liable for the inability to produce an electronic manifest for inspection under this section if the owner or operator can demonstrate that the inability to produce the electronic manifest is due exclusively to a technical difficulty with the electronic manifest system for which the owner or operator bears no responsibility.

(h) An owner or operator may participate in the electronic manifest system either by accessing the electronic manifest system from the owner's or operator's electronic equipment, or by accessing the electronic manifest system from portable equipment brought to the owner's or operator's site by the transporter who delivers the waste shipment to the facility.

(i) Special procedures applicable to replacement manifests. If a facility receives hazardous waste that is accompanied by a paper replacement manifest for a manifest that was originated electronically, the following procedures apply to the delivery of the hazardous waste by the final transporter:

(1) Upon delivery of the hazardous waste to the designated facility, the owner or operator must sign and date each copy of the paper replacement manifest by hand in Item 20 (Designated Facility Certification of Receipt) and note any discrepancies in Item 18 (Discrepancy Indication Space) of the paper replacement manifest.

(2) The owner or operator of the facility must give back to the final transporter one copy of the paper replacement manifest.

(3) Within 30 days of delivery of the waste to the designated facility, the owner or operator of the facility must send one signed and dated copy of the paper replacement manifest to the generator, and send an additional signed and dated copy of the paper replacement manifest to the electronic manifest system, and

(4) The owner or operator of the facility must retain at the facility one copy of the paper replacement manifest for at least three years from the date of delivery.

(j) Special procedures applicable to electronic signature methods undergoing tests. If an owner or operator using an electronic manifest signs this manifest electronically using an electronic signature method which is undergoing pilot or demonstration tests aimed at demonstrating the practicality or legal dependability of the signature method, then the owner or operator shall also sign with an ink signature the facility's certification of receipt or discrepancies on the printed copy of the manifest provided by the transporter. Upon executing its ink signature on this printed copy,

the owner or operator shall retain this original copy among its records for at least 3 years from the date of delivery of the waste.

(k) Imposition of user fee for manifest submissions:

(1) As prescribed in 40 CFR Part 264.1311, and determined in 40 CFR Part 264.1312, an owner or operator who is a user of the electronic manifest system shall be assessed a user fee by EPA for the submission and processing of each electronic and paper manifest. EPA shall update the schedule of user fees and publish them to the user community, as provided in 40 CFR Part 264.1313.

(2) An owner or operator subject to user fees under this section shall make user fee payments in accordance with the requirements of 40 CFR Part 264.1314, subject to the informal fee dispute resolution process of 40 CFR Part 264.1316, and subject to the sanctions for delinquent payments under 40 CFR Part 264.1315.

(l) Electronic Manifest Signatures. Electronic manifest signatures shall meet the criteria described in § 262.25(a) of this Chapter.

(m) Post-receipt manifest data corrections. After facilities have certified to the receipt of hazardous wastes by signing Item 20 of the manifest, any post-receipt data corrections may be submitted at any time by any interested person (e.g., waste handler) shown on the manifest.

(1) Interested persons must make all corrections to manifest data by electronic submission, either by directly entering corrected data to the web based service provided in e-Manifest for such corrections, or by an upload of a data file containing data corrections relating to one or more previously submitted manifests.

(2) Each correction submission must include the following information:

(i) The Manifest Tracking Number and date of receipt by the facility of the original manifest(s) for which data are being corrected;

(ii) The item number(s) of the original manifest that is the subject of the submitted correction(s); and

(iii) For each item number with corrected data, the data previously entered and the corresponding data as corrected by the correction submission.

(3) Each correction submission shall include a statement that the person submitting the corrections certifies that to the best of his or her knowledge or belief, the corrections that are included in the submission will cause the information reported about the previously received hazardous wastes to be true, accurate, and complete:

(i) The certification statement must be executed with a valid electronic signature; and

(ii) A batch upload of data corrections may be submitted under one certification statement.

(4) Upon receipt by the system of any correction submission, other interested persons shown on the manifest will be provided electronic notice of the submitter's corrections.

(5) Other interested persons shown on the manifest may respond to the submitter's corrections with comments to the submitter, or by submitting another correction to the system, certified by the respondent as specified in paragraph (m)(3) of this section, and with notice of the corrections to other interested persons shown on the manifest.

§ 264.72 Manifest discrepancies

(a) Manifest discrepancies are:

(1) Significant differences (as defined by paragraph (b) of this section) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives;

(2) Rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept; or

(3) Container residues, which are residues that exceed the quantity limits for “empty” containers set forth in § 261.7(b) of this rule.

(b) Significant differences in quantity are: For bulk waste, variations greater than 10 percent in weight; for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant differences in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(c) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Director a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

(d)(1) Upon rejecting waste or identifying a container residue that exceeds the quantity limits for “empty” containers set forth in Section 261.7(b) of this Rule, the facility must consult with the generator prior to forwarding the waste to another facility that can manage the waste. If it is impossible to locate an alternative facility that can receive the waste, the facility may return the rejected waste or residue to the generator. The facility must send the waste to the alternative facility or to the generator within 60 days of the rejection or the container residue identification.

(2) While the facility is making arrangements for forwarding rejected wastes or residues to another facility under this section, it must ensure that either the delivering transporter retains custody of the waste, or, the facility must provide for secure, temporary custody of the waste, pending delivery of the waste to the first transporter designated on the manifest prepared under paragraph (e) or (f) of this Section.

(e) Except as provided in paragraph (e)(7) of this section, for full or partial load rejections and residues that are to be sent off-site to an alternate facility, the facility is required to prepare a new manifest in accordance with § 262.20(a) of this Rule and the following instructions:

(1) Write the generator’s U.S. EPA ID number in Item 1 of the new manifest. Write the generator’s name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator’s site address, then write the generator’s site address in the designated space for Item 5.

(2) Write the name of the alternate designated facility and the facility’s U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment,

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a).

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator’s/Offeree’s Certification to certify, as the offeror of the shipment,

that the waste has been properly packaged, marked and labeled and is in proper condition for transportation, and mail a signed copy of the manifest to the generator identified in Item 5 of the new manifest.

(7) For full load rejections that are made while the transporter remains present at the facility, the facility may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the Alternate Facility space. The facility must retain a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with paragraphs (e)(1), (2), (3), (4), (5), and (6) of this Section.

(f) Except as provided in paragraph (f)(7) of this section, for rejected wastes and residues that must be sent back to the generator, the facility is required to prepare a new manifest in accordance with § 262.20(a) of this Rule and the following instructions:

(1) Write the facility's U.S. EPA ID number in Item 1 of the new manifest. Write the facility's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the facility's site address, then write the facility's site address in the designated space for Item 5 of the new manifest.

(2) Write the name of the initial generator and the generator's U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment,

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a),

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator's/Officer's Certification to certify, as offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation,

(7) For full load rejections that are made while the transporter remains at the facility, the facility may return the shipment to the generator with the original manifest by completing Item 18a and 18b of the manifest and supplying the generator's information in the Alternate Facility space. The facility must retain a copy for its records and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with paragraphs (f)(1), (2), (3), (4), (5), (6), and (8) of this Subsection.

(8) For full or partial load rejections and container residues contained in non-empty containers that are returned to the generator, the facility must also comply with the exception reporting requirements in § 262.42(a) of this rule.

(g) If a facility rejects a waste or identifies a container residue that exceeds the quantity limits for "empty" containers set forth in § 261.7(b) of this rule after it has signed, dated, and returned a copy of the manifest to the delivering transporter or to the generator, the facility must amend its copy of the manifest to indicate the rejected wastes or residues in the discrepancy space of the amended manifest. The facility must also copy the manifest tracking number from Item 4 of the new manifest to the Discrepancy space of the amended manifest, and must re-sign and date the manifest

to certify to the information as amended. The facility must retain the amended manifest for at least three years from the date of amendment, and must within 30 days, send a copy of the amended manifest to the transporter and generator that received copies prior to their being amended.

§ 264.73 Operating record

- (a) The owner or operator must keep a written operating record at his facility.
 - (b) The following information must be recorded, as it becomes available, and maintained in the operating record for three years unless noted as follows:
 - (1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by Appendix I; to this Section. This information must be maintained in the operating record until closure of the facility;
 - (2) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram that shows each cell or disposal area. For all facilities, this information must include cross-references to manifest document numbers if the waste was accompanied by a manifest. This information must be maintained in the operating record until closure of the facility;
- [Comment: See § 264.119 for related requirements.]
- (3) Records and results of waste analyses performed as specified in §§ 264.13, 264.17, 264.314, 264.341, 264.1034, 264.1063, 264.1083, 268.4(a), and 268.7 of this rule.
 - (4) Summary reports and details of all incidents that require implementing the contingency plan as specified in § 264.56(j);
 - (5) Records and results of inspections as required by § 264.15(d) (except these data need be kept only three years);
 - (6) Monitoring, testing or analytical data, and corrective action where required by Subsection F of this Section and Sections 264.19, 264.191, 264.193, 264.195, 264.222, 264.223, 264.226, 264.252-264.254, 264.276, 264.278, 264.280, 264.302-264.304, 264.309, 264.602, 264.1034(c)-264.1034(f), 264.1035, 264.1063(d)-264.1063(i), 264.1064, and 264.1082 through 264.1090 of this Section. This information must be maintained in the operating record for three years, except for records and results pertaining to groundwater monitoring and cleanup which must be maintained in the operating record until closure of the facility.
 - (7) For off-site facilities, notices to generators as specified in § 264.12(b); and
 - (8) All closure cost estimates under § 264.142, and, for disposal facilities, all postclosure cost estimates under § 264.144 of this Section. This information must be maintained in the operating record until closure of the facility.
 - (9) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.
 - (10) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land

disposal restriction granted pursuant to § 268.5 of this Rule, a petition pursuant to § 268.6 of this Rule, or a certification under § 268.8 of this Rule, and the applicable notice required by a generator under § 268.7(a) of this Rule. This information must be maintained in the operating record until closure of the facility.

(11) For an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(12) For an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(13) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 and § 268.8, whichever is applicable; and

(14) For an on-site land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under § 268.7, except for the manifest number, and the certification and demonstration if applicable, required under § 268.8, whichever is applicable.

(15) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(16) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8; and

(17) Any records required under § 264.1(j)(13).

(18) Monitoring, testing or analytical data where required by § 264.347 must be maintained in the operating record for five years.

(19) Certifications as required by § 264.196(f) must be maintained in the operating record until closure of the facility.

§ 264.74 Availability, retention, and disposition of records

(a) All records, including plans, required under this Section must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the Division or EPA who is duly designated by the Director.

(b) The retention period for all records required under this Section is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Director.

(c) A copy of records of waste disposal locations and quantities under § 264.73(b)(2) must be submitted to the Director and local land authority upon closure of the facility.

§ 264.75 Annual Report

The owner or operator of a treatment, storage or disposal facility must prepare and submit a single copy of an Annual Report to the Director not later than March 1, of each year. The Annual report must be submitted on forms or in an electronic format furnished or approved by the Division and in accordance with the annual instruction booklet provided by the Division. The report must cover facility activities during the previous calendar year and must include, at a

minimum, the following information:

- (a) The EPA identification number, name and address of the facility;*
- (b) The calendar year covered by the report;*
- (c) For offsite facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year;*
- (d) For imported shipments, the report must give the name and address of the foreign generator;*
- (e) A description and the quantity of each hazardous waste the facility received during the year. For offsite facilities, this information must be listed by EPA identification number of each generator.*
- (f) The method of treatment, storage, or disposal for each hazardous waste;*
- (g) The most recent closure cost estimate under § 264.142, and, for disposal facilities, the most recent post-closure cost estimate under § 264.144; and*
- (h) For generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts under-taken during the year to reduce the volume and toxicity of waste generated.*
- (i) For generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984.*
- (j) A certification signed by the owner or operator of the facility or his authorized representative that the report is true, accurate, and correct.*
- (k) The owner or operator of a land disposal facility must, in addition to the requirements above, submit monitoring data under § 265.94(a)(2) (ii) and (iii), and (b)(2), in accordance with the requirements set forth in the facility's permit.*
- (l) Commercial hazardous waste management facilities shall submit their Annual Report in an electronic format as prescribed in the annual reporting instructions, or as otherwise coordinated with the Division.*

§ 264.76 Un-manifested waste report

(a) If a facility accepts for treatment, storage, or disposal any hazardous waste from an offsite source without an accompanying manifest, or without an accompanying shipping paper as described by § 263.20(e) of this Rule, and if the waste is not excluded from the manifest requirement by this Rule, then the owner or operator must prepare and submit a letter to the Director within 15 days after receiving the waste. The unmanifested waste report must contain the following information:

- (1) The EPA identification number, name and address of the facility;
 - (2) The date the facility received the waste;
 - (3) The EPA identification number, name and address of the generator and the transporter, if available;
 - (4) A description and the quantity of each unmanifested hazardous waste the facility received;
 - (5) The method of treatment, storage, or disposal for each hazardous waste;
 - (6) The certification signed by the owner or operator of the facility or his authorized representative; and,
 - (7) A brief explanation of why the waste was unmanifested, if known.
- (b) [Reserved]

[Comment: Where a facility receives unmanifested hazardous wastes, the Division suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Division suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.]

§ 264.77 Additional reports

In addition to submitting the annual reports and un-manifested waste reports described in §§ 264.75 and 264.76, the owner or operator must also report to the Director:

- (a) Releases, fires, and explosions as specified in § 264.56(j);
- (b) Facility closures specified in § 264.115; and
- (c) As otherwise required by Subsections F, K through N, AA, BB, and CC of this Section.

Subsection F -- Releases from Solid Waste Management Units

§ 264.90 Applicability

(a)(1) Except as provided in paragraph (b) of this section, the Rules in this Subsection apply to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units.

(2) All solid waste management units must comply with the requirements in § 264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a “regulated unit”) must comply with the requirements of §§ 264.91 through 264.100 in lieu of § 264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of § 264.101 apply to regulated units.

(b) The owner or operator’s regulated unit or units are not subject to regulation for releases into the uppermost aquifer under this Subsection if:

- (1) The owner or operator is exempted under § 264.1; or
- (2) He operates a unit which the Director finds:
 - (i) Is an engineered structure,
 - (ii) Does not receive or contain liquid waste or waste containing free liquids,
 - (iii) Is designed and operated to exclude liquid, precipitation, and other run-on and run-off,
 - (iv) Has both inner and outer layers of containment enclosing the waste,
 - (v) Has a leak detection system built into each containment layer,
 - (vi) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods, and
 - (vii) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the post-closure care period.

(3) The Director finds, pursuant to § 264.280(d), that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of § 264.278 has not shown a statistically significant increase in hazardous constituents below the treatment

zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this Subsection during the post-closure care period; or

(4) The Director finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the post-closure care period specified under § 264.117. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(5) He designs and operates a pile in compliance with § 264.250(c).

(c) The rules under this Subsection apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the rules in this Subsection:

(1) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) Apply during the post-closure care period under § 264.117 if the owner or operator is conducting a detection monitoring program under § 264.98; or

(3) Apply during the compliance period under § 264.96 if the owner or operator is conducting a compliance monitoring program under § 264.99 or a corrective action program under § 264.100.

(d) Rules in this Subsection may apply to miscellaneous units when necessary to comply with §§ 264.601 through 264.603.

(e) The rules of this subpart apply to all owners and operators subject to the requirements of § 270.1(c)(7), when the Division issues either a post-closure permit or an enforceable document (as defined in § 270.1(c)(7)) at the facility. When the Division issues an enforceable document, references in this subpart to “in the permit” mean “in the enforceable document.”

(f) The Director may replace all or part of the requirements of §§ 264.91 through 264.100 applying to a regulated unit with alternative requirements for groundwater monitoring and corrective action for releases to groundwater set out in the permit (or in an enforceable document) (as defined in § 270.1(c)(7)) where the Director determines that:

(1) The regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and

(2) It is not necessary to apply the groundwater monitoring and corrective action requirements of §§ 264.91 through 264.100 because alternative requirements will protect human health and the environment.

§ 264.91 Required programs

(a) Owners and operators subject to this Subsection must conduct a monitoring and response program as follows:

(1) Whenever hazardous constituents under § 264.93 from a regulated unit are detected at a compliance point under § 264.95, the owner or operator must institute a compliance monitoring program under § 264.99. Detected is defined as statistically significant evidence of contamination as described in § 264.98(f);

(2) Whenever the ground-water protection standard under § 264.92 is exceeded, the owner

or operator must institute a corrective action program under § 264.100. Exceeded is defined as statistically significant evidence of increased contamination as described in § 264.99(d);

(3) Whenever hazardous constituents under § 264.93 from a regulated unit exceed concentration limits under § 264.94 in ground water between the compliance point under § 264.95 and the down gradient facility property boundary, the owner or operator must institute a corrective action program under § 264.100; or

(4) In all other cases, the owner or operator must institute a detection monitoring program under § 264.98.

(b) The Director will specify in the facility permit the specific elements of the monitoring and response program. The Director may include one or more of the programs identified in paragraph (a) of this section in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Director will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken.

§ 264.92 Ground-water protection standard

The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under § 264.93 detected in the ground water from a regulated unit do not exceed the concentration limits under § 264.94 in the uppermost aquifer underlying the waste management area beyond the point of compliance under § 264.95 during the compliance period under § 264.96. The Director will establish this ground-water protection standard in the facility permit when hazardous constituents have been detected in the ground water.

§ 264.93 Hazardous constituents

(a) The Director will specify in the facility permit the hazardous constituents to which the ground-water protection standard of § 264.92 applies. Hazardous constituents are constituents identified in Appendix VIII of Section 261 of this rule that have been detected in ground water in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Director has excluded them under paragraph (b) of this section.

(b) The Director will exclude an Appendix VIII constituent from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the Director will consider the following:

(1) Potential adverse effects on ground-water quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of ground water and the direction of ground-water flow;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The current and future uses of ground water in the area;

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

- (vii) The potential for health risks caused by human exposure to waste constituents;
- (viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
- (ix) The persistence and permanence of the potential adverse effects; and
- (2) Potential adverse effects on hydraulically-connected surface water quality, considering:
 - (i) The volume and physical and chemical characteristics of the waste in the regulated unit;
 - (ii) The hydrogeological characteristics of the facility and surrounding land;
 - (iii) The quantity and quality of ground water, and the direction of ground-water flow;
 - (iv) The patterns of rainfall in the region;
 - (v) The proximity of the regulated unit to surface waters;
 - (vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
 - (vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality;
 - (viii) The potential for health risks caused by human exposure to waste constituents;
 - (ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
 - (x) The persistence and permanence of the potential adverse effects.
- (c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility, the Director will consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.8.

§ 264.94 Concentration limits

- (a) The Director will specify in the facility permit concentration limits in the ground water for hazardous constituents established under § 264.93. The concentration of a hazardous constituent:
 - (1) Must not exceed the background level of that constituent in the ground water at the time that limit is specified in the permit; or
 - (2) For any of the constituents listed in Table 1, must not exceed the respective value given in that table if the background level of the constituent is below the value given in Table 1; or

Table 1
Maximum Concentration of Constituents for
Ground-water Protection

| Constituent | Maximum concentration¹ |
|--------------------|--|
| Arsenic | 0.05 |
| Barium | 1.0 |
| Cadmium | 0.01 |
| Chromium | 0.05 |
| Lead | 0.05 |
| Mercury | 0.002 |
| Selenium | 0.01 |
| Silver | 0.05 |
| Endrin | 0.0002 |

| | |
|-----------------|-------|
| Lindane | 0.004 |
| Methoxychlor | 0.1 |
| Toxaphene | 0.005 |
| 2,4-D | 0.1 |
| 2,4,5-TP Silvex | 0.01 |

FOOTNOTE: ¹ Milligrams per liter.

(3) Must not exceed an alternate limit established by the Director under paragraph (b) of this section.

(b) The Director will establish an alternate concentration limit for a hazardous constituent if he finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the Director will consider the following factors:

- (1) Potential adverse effects on ground-water quality, considering:
 - (i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;
 - (ii) The hydrogeological characteristics of the facility and surrounding land;
 - (iii) The quantity of ground water and the direction of ground-water flow;
 - (iv) The proximity and withdrawal rates of ground-water users;
 - (v) The current and future uses of ground water in the area;
 - (vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;
 - (vii) The potential for health risks caused by human exposure to waste constituents;
 - (viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
 - (ix) The persistence and permanence of the potential adverse effects; and
- (2) Potential adverse effects on hydraulically-connected surface-water quality, considering:
 - (i) The volume and physical and chemical characteristics of the waste in the regulated unit;
 - (ii) The hydrogeological characteristics of the facility and surrounding land;
 - (iii) The quantity and quality of ground water, and the direction of ground-water flow;
 - (iv) The patterns of rainfall in the region;
 - (v) The proximity of the regulated unit to surface waters;
 - (vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
 - (vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
 - (viii) The potential for health risks caused by human exposure to waste constituents;
 - (ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
 - (x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility the Director will consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.8.

§ 264.95 Point of compliance

(a) The Director will specify in the facility permit the point of compliance at which the ground-water protection standard of § 264.92 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically down gradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

§ 264.96 Compliance period

(a) The Director will specify in the facility permit the compliance period during which the ground-water protection standard of § 264.92 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period.)

(b) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of § 264.99.

(c) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in paragraph (a) of this section, the compliance period is extended until the owner or operator can demonstrate that the ground-water protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

§ 264.97 General groundwater monitoring requirements

The owner or operator must comply with the following requirements for any ground-water monitoring program developed to satisfy § 264.98, § 264.99, or § 264.100:

(a) The ground-water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground-water samples from the uppermost aquifer that:

(1) Represent the quality of background water that has not been affected by leakage from a regulated unit;

(i) A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(A) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

(B) Sampling at other wells will provide an indication of background ground-water quality that is representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of ground water passing the point of compliance.

(3) Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

(b) If a facility contains more than one regulated unit, separate ground-water monitoring systems are not required for each regulated unit provided that provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous

constituents from the regulated units that have entered the ground water in the uppermost aquifer.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring-well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(d) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground-water quality below the waste management area. At a minimum the program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures; and
- (4) Chain of custody control.

(e) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents in ground-water samples.

(f) The ground-water monitoring program must include a determination of the ground-water surface elevation each time ground water is sampled.

(g) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit will be collected from background wells and wells at the compliance point(s). The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected. The owner or operator will determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the unit permit upon approval by the Director. This sampling procedure shall be:

- (1) A sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants, or
- (2) an alternate sampling procedure proposed by the owner or operator and approved by the Director.

(h) The owner or operator will specify one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent which, upon approval by the Director, will be specified in the unit permit. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. Where practical quantification limits (pql's) are used in any of the following statistical procedures to comply with § 264.97(i)(5), the pql must be proposed by the owner or operator and approved by the Director. Use of any of the following statistical methods must be protective of human health and the environment and must comply with the performance standards outlined in paragraph (i) of this section.

- (1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method submitted by the owner or operator and approved by the Director.

(i) Any statistical method chosen under § 264.97(h) for specification in the unit permit shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals or control charts.

(3) If a control chart approach is used to evaluate ground-water monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and approved by the Director if he or she finds it to be protective of human health and the environment.

(4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be proposed by the owner or operator and approved by the Director if he or she finds these parameters to be protective of human health and the environment. These parameters will be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit (pql) approved by the Director under § 264.97(h) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(j) Ground-water monitoring data collected in accordance with paragraph (g) of this section

including actual levels of constituents must be maintained in the facility operating record. The Director will specify in the permit when the data must be submitted for review.

§ 264.98 Detection monitoring program

An owner or operator required to establish a detection monitoring program under this Subsection must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in ground water. The Director will specify the parameters or constituents to be monitored in the facility permit, after considering the following factors:

(1) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(2) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

(3) The detectability of indicator parameters, waste constituents, and reaction products in ground water; and

(4) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the ground-water background.

(b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under § 264.95. The ground-water monitoring system must comply with § 264.97(a)(2), (b), and (c).

(c) The owner or operator must conduct a ground-water monitoring program for each chemical parameter and hazardous constituent specified in the permit pursuant to paragraph (a) of this section in accordance with § 264.97(g). The owner or operator must maintain a record of ground-water analytical data as measured and in a form necessary for the determination of statistical significance under § 264.97(h).

(d) The Director will specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under paragraph (a) of this section in accordance with § 264.97(g).

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in the permit pursuant to paragraph (a) of this section at a frequency specified under paragraph (d) of this section.

(1) In determining whether statistically significant evidence of contamination exists, the owner or operator must use the method(s) specified in the permit under § 264.97(h). These method(s) must compare data collected at the compliance point(s) to the background ground-water quality data.

(2) The owner or operator must determine whether there is statistically significant evidence of contamination at each monitoring well as the compliance point within a reasonable period of time after completion of sampling. The Director will specify in the facility permit what period of time is reasonable, after considering the complexity of the statistical test and the

availability of laboratory facilities to perform the analysis of ground-water samples.

(g) If the owner or operator determines pursuant to paragraph (f) of this section that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she must:

(1) Notify the Director of this finding in writing within seven days. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination;

(2) Immediately sample the ground water in all monitoring wells and determine whether constituents in the list of Appendix IX of this Section are present, and if so, in what concentration. However, the Director, on a discretionary basis, may allow sampling for a site-specific subset of constituents from the Appendix IX list of this part and other representative/related waste constituents.

(3) For any Appendix IX compounds found in the analysis pursuant to paragraph (g)(2) of this section, the owner or operator may resample within one month or at an alternative site-specific schedule approved by the Director and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample for the compounds in paragraph (g)(2) of this section, the hazardous constituents found during this initial Appendix IX analysis will form the basis for compliance monitoring.

(4) Within 90 days, submit to the Director an application for a permit modification to establish a compliance monitoring program meeting the requirements of § 264.99. The application must include the following information:

(i) An identification of the concentration or any Appendix IX constituent detected in the ground water at each monitoring well at the compliance point;

(ii) Any proposed changes to the ground-water monitoring system at the facility necessary to meet the requirements of § 264.99;

(iii) Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of § 264.99;

(iv) For each hazardous constituent detected at the compliance point, a proposed concentration limit under § 264.94(a) (1) or (2), or a notice of intent to seek an alternate concentration limit under § 264.94(b); and

(5) Within 180 days, submit to the Director:

(i) All data necessary to justify an alternate concentration limit sought under § 264.94(b); and

(ii) An engineering feasibility plan for a corrective action program necessary to meet the requirement of § 264.100, unless:

(A) All hazardous constituents identified under paragraph (g)(2) of this section are listed in Table 1 of § 264.94 and their concentrations do not exceed the respective values given in that Table; or

(B) The owner or operator has sought an alternate concentration limit under § 264.94(b) for every hazardous constituent identified under paragraph (g)(2) of this section.

(6) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant difference for chemical parameters or hazardous

constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. The owner operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(4) of this section; however, the owner or operator is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(4) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

- (i) Notify the Director in writing within seven days of determining statistically significant evidence of contamination at the compliance point that he intends to make a demonstration under this paragraph;

- (ii) Within 90 days, submit a report to the Director which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

- (iii) Within 90 days, submit to the Director an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

- (iv) Continue to monitor in accordance with the detection monitoring program established under this section.

- (h) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he or she must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

§ 264.99 Compliance monitoring program

An owner or operator required to establish a compliance monitoring program under this Subsection must, at a minimum, discharge the following responsibilities:

- (a) The owner or operator must monitor the ground water to determine whether regulated units are in compliance with the ground-water protection standard under § 264.92. The Director will specify the ground-water protection standard in the facility permit, including:

- (1) A list of the hazardous constituents identified under § 264.93;

- (2) Concentration limits under § 264.94 for each of those hazardous constituents;

- (3) The compliance point under § 264.95; and

- (4) The compliance period under § 264.96.

- (b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under § 264.95. The ground-water monitoring system must comply with § 264.97(a)(2), (b), and (c).

- (c) The Director will specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with § 264.97 (g) and (h).

- (1) The owner or operator must conduct a sampling program for each chemical parameter or hazardous constituent in accordance with § 264.97(g).

- (2) The owner or operator must record ground-water analytical data as measured and in form necessary for the determination of statistical significance under § 264.97(h) for the

compliance period of the facility.

(d) The owner or operator must determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the permit, pursuant to paragraph (a) of this section, at a frequency specified under paragraph (f) under this section.

(1) In determining whether statistically significant evidence of increased contamination exists, the owner or operator must use the method(s) specified in the permit under § 264.97(h). The methods(s) must compare data collected at the compliance point(s) to a concentration limit developed in accordance with § 264.94.

(2) The owner or operator must determine whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Director will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground-water samples.

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The Director will specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with § 264.97(g).

(g) Annually determine whether additional hazardous constituents from Appendix IX are present in the uppermost aquifer; consult with the Director to determine enhanced sampling event; report concentration of additional constituents within seven days and add them to the monitoring list.

(h) If the owner or operator determines pursuant to paragraph (d) of this section that any concentration limits under § 264.94 are being exceeded at any monitoring well at the point of compliance he or she must:

(1) Notify the Director of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

(2) Submit to the Director an application for a permit modification to establish a corrective action program meeting the requirements of § 264.100 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Director under § 264.98(g)(5). The application must at a minimum include the following information:

(i) A detailed description of corrective actions that will achieve compliance with the ground-water protection standard specified in the permit under paragraph (a) of this section; and

(ii) A plan for a ground-water monitoring program that will demonstrate the effectiveness of the corrective action. Such a ground-water monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(i) If the owner or operator determines, pursuant to paragraph (d) of this section, that the ground-water concentration limits under this section are being exceeded at any monitoring well at the point of compliance, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Director in writing within seven days that he intends to make a demonstration under this paragraph;

(2) Within 90 days, submit a report to the Director which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Director an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(4) Continue to monitor in accord with the compliance monitoring program established under this section.

(j) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

§ 264.100 Corrective action program

An owner or operator required to establish a corrective action program under this Subsection must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must take corrective action to ensure that regulated units are in compliance with the ground-water protection standard under § 264.92. The Director will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under § 264.93;

(2) Concentration limits under § 264.94 for each of those hazardous constituents;

(3) The compliance point under § 264.95; and

(4) The compliance period under § 264.96.

(b) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(c) The owner or operator must begin corrective action within a reasonable time period after the ground-water protection standard is exceeded. The Director will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of § 264.99(i)(2).

(d) In conjunction with a corrective action program, the owner or operator must establish and implement a ground-water monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under § 264.99 and must be as effective as that program in determining compliance with the ground-water protection standard under § 264.92 and in determining the success of a corrective action program under paragraph (e) of this section, where appropriate.

(e) In addition to the other requirements of this section, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under § 264.93 that exceed concentration limits under § 264.94 in groundwater:

(1) Between the compliance point under § 264.95 and the downgradient property boundary; and

(2) Beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Director that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. The owner/operator is not relieved of all

responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis.

(3) Corrective action measures under this paragraph must be initiated and completed within a reasonable period of time considering the extent of contamination.

(4) Corrective action measures under this paragraph may be terminated once the concentration of hazardous constituents under § 264.93 is reduced to levels below their respective concentration limits under § 264.94.

(f) The owner or operator must continue corrective action measures during the compliance period to the extent necessary to ensure that the ground-water protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he must continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate, based on data from the ground-water monitoring program under paragraph (d) of this section, that the groundwater protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

(g) The owner or operator must report in writing to the Director on the effectiveness of the corrective action program. The owner or operator must submit these reports annually.

(h) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

§ 264.101 Corrective action for solid waste management units

(a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(b) Corrective action will be specified in the permit in accordance with this Subsection and Subsection S of this Section. The permit will contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action.

(c) The owner or operator must implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Director that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for such corrective action must be provided.

(d) This does not apply to remediation waste management sites unless they are part of a facility subject to a permit for treating, storing or disposing of hazardous wastes that are not remediation wastes.

Subsection G -- Closure and Post-Closure

§ 264.110 Applicability

Except as § 264.1 provides otherwise:

(a) Sections 264.111 through 264.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 264.116 through 264.120 (which concern post-closure care) apply to the owners and operators of:

(1) All hazardous waste disposal facilities; and

(2) Waste piles and surface impoundments from which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in § 264.228 or § 264.258.

(3) Tank systems that are required under § 264.197 to meet the requirements for landfills.

(4) Containment buildings that are required under § 264.1102 to meet the requirement for landfills.

(c) The Director may replace all or part of the requirements of this subsection (and the unit-specific standards referenced in § 264.111(c) applying to a regulated unit), with alternative requirements set out in a permit or in an enforceable document (as defined in § 270.1(c)(7)), where the Director determines that:

(1) The regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and

(2) It is not necessary to apply the closure requirements of this subsection (and those referenced herein) because the alternative requirements will protect human health and the environment and will satisfy the closure performance standard of § 264.111 (a) and (b).

§ 264.111 Closure performance standard

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance; and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and

(c) Complies with the closure requirements of this Subsection, including, but not limited to, the requirements of §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601 through 264.603, and 264.1102.

§ 264.112 Closure plan; amendment of plan

(a) Written plan. (1) The owner or operator of a hazardous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by §§ 264.228(c)(1)(i) and 264.258(c)(1)(i) to have contingent closure plans. The plan must be submitted with the permit application, in accordance with § 270.14(b)(13) of this rule, and approved by the Director as part of the permit issuance procedures under 40 CFR 124 and Rule No. 8. In accordance with § 270.32 of this rule, the approved closure plan will become a

condition of any RCRA permit.

(2) The Director's approval of the plan must ensure that the approved closure plan is consistent with §§ 264.111 through 264.115 and the applicable requirements of §§ 264.90 et seq., 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, and 264.1102. Until final closure is completed and certified in accordance with § 264.115, a copy of the approved plan and all approved revisions must be furnished to the Director upon request, including request by mail.

(b) Content of plan. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with § 264.111;

(2) A description of how final closure of the facility will be conducted in accordance with § 264.112. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the off-site hazardous waste management units to be used, if applicable; and

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)

(7) For facilities that use trust funds to establish financial assurance under § 264.143 or § 264.145 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(8) For facilities where the Director has applied alternative requirements at a regulated unit under §§ 264.90(f), 264.110(c), and/or § 264.140(d), either the alternative requirements applying to the regulated unit, or a reference to the enforceable document containing those alternative requirements.

(c) Amendment of plan. The owner or operator must submit a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in Section 270. The written notification or request must include a copy of the amended closure plan for review or approval by the Director.

(1) The owner or operator may submit a written notification or request to the Director for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever:

- (i) Changes in operating plans or facility design affect the closure plan, or
- (ii) There is a change in the expected year of closure, if applicable, or
- (iii) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan, or
- (iv) the owner or operator requests the Director to apply alternative requirements to a regulated unit under §§ 264.90(f), 264.110(c), and/or § 264.140(d).

(3) The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under § 264.228(c)(1)(i) or § 264.258(c)(1)(i), must submit an amended closure plan to the Director no later than 60 days from the date that the owner or operator or Director determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310, or no later than 30 days from that date if the determination is made during partial or final closure. The Director will approve, disapprove, or modify this amended plan in accordance with the procedures in Section 270. In accordance with § 270.32 of this rule, the approved closure plan will become a condition of any RCRA permit issued.

(4) The Director may request modifications to the plan under the conditions described in § 264.112(c)(2). The owner or operator must submit the modified plan within 60 days of the Director's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the Director will be approved in accordance with the procedures in Section 270.

(d) Notification of partial closure and final closure.

(1) The owner or operator must notify the Director in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the Director in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed. The owner or operator must notify the Director in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace, whichever is earlier.

(2) The date when he "expects to begin closure" must be either:

- (i) No later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. If the owner or operator of a hazardous waste management

unit can demonstrate to the Director that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Director may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of § 264.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of non-hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional non-hazardous wastes, no later than one year after the date on which the unit received the most recent volume of non-hazardous wastes. If the owner or operator can demonstrate to the Director that the hazardous waste management unit has the capacity to receive additional non-hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Director may approve an extension to this one-year limit.

(3) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under section 3008 of RCRA, to cease receiving hazardous wastes or to close, then the requirements of this paragraph do not apply. However, the owner or operator must close the facility in accordance with the deadlines established in § 264.113.

(e) Removal of wastes and decontamination or dismantling of equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

§ 264.113 Closure; time allowed for closure

(a) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Director may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all

applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility. The Director may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows:

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.

(d) The Director may allow an owner or operator to receive only non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(1) The owner or operator requests a permit modification in compliance with all applicable requirements in Sections 270 of this rule, Rule No. 8, and 40 CFR 124, and in the permit modification request demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The non-hazardous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under this Section; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable permit requirements; and

(2) The request to modify the permit includes an amended waste analysis plan, ground-water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate, to reflect any changes due to the presence of hazardous constituents in the non-

hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under § 264.112(b)(7), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes; and

(3) The request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The request to modify the permit and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Director no later than 120 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o) (2) or (3) or 3005(j) (2), (3), (4) or (13) must:

(1) Submit with the request to modify the permit:

(i) A contingent corrective measures plan, unless a corrective action plan has already been submitted under § 264.99; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids, and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The Director may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters or constituents specified in the permit or that exceeds the facility's ground-water protection standard at the point of compliance, if applicable, is detected in accordance with the requirements in Subsection F of this Section, the owner or operator of the unit:

(i) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (e)(1) of this section no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Director to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(5) During the period of corrective action, the owner or operator shall provide annual reports to the Director describing the progress of the corrective action program, compile all ground-water monitoring data, and evaluate the effect of the continued receipt of non-

hazardous wastes on the effectiveness of the corrective action.

(6) The Director may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (e)(4) of this section, or fails to make substantial progress in implementing corrective action and achieving the facility's ground-water protection standard or background levels if the facility has not yet established a ground-water protection standard.

(7) If the owner or operator fails to implement corrective measures as required in paragraph (e)(4) of this section, or if the Director determines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadlines in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Director receives no written comments, the decision will become final five days after the close of the comment period. The Director will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Director receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Director determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Director under paragraphs (e)(7) (iii) and (iv) of this section are not subject to administrative appeal.

§ 264.114 Disposal or decontamination of equipment, structures, and soils

During the partial and final closure periods, all contaminated equipment, structures and soils must be properly disposed of or decontaminated unless otherwise specified in §§ 264.197, 264.228, 264.258, 264.280 or § 264.310. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of Section 262 of this rule.

§ 264.115 Certification of closure

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, the owner or operator must submit to the Director, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by *an independent Arkansas-registered professional engineer*. Documentation supporting the *independent Arkansas-registered professional engineer's* certification must be

furnished to the Director upon request until he releases the owner or operator from the financial assurance requirements for closure under § 264.143(i).

§ 264.116 Survey plat

No later than the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, a survey plat indicating the location and dimensions of landfills cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable Subsection G rules.

§ 264.117 Post-closure care and use of property

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following:

- (i) Monitoring and reporting in accordance with the requirements of Subsections F, K, L, M, N, and X of this Section; and
- (ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Subsections F, K, L, M, N, and X of this Section.

(2) Any time preceding partial closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular unit, the Director may, in accordance with the permit modification procedures in Section 270:

- (i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or
- (ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(b) The Director may require, at partial and final closure, continuation of any of the security requirements of § 264.14 during part or all of the post-closure period when:

- (1) Hazardous wastes may remain exposed after completion of partial or final closure; or
- (2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Director finds that the disturbance:

- (1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or
- (2) Is necessary to reduce a threat to human health or the environment.
- (d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in § 264.118.

§ 264.118 Post-closure plan; amendment of plan

(a) Written Plan. The owner or operator of a hazardous waste disposal unit must have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) to have contingent post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Director within 90 days from the date that the owner or operator or Director determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of §§ 264.117 through 264.120. The plan must be submitted with the permit application, in accordance with § 270.14(b)(13) of this rule, and approved by the Director as part of the permit issuance procedures under 40 CFR 124 and Rule No. 8. In accordance with § 270.32 of this rule, the approved post-closure plan will become a condition of any RCRA permit issued.

(b) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

- (1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subsections F, K, L, M, N, and X of this Section during the post-closure care period; and
- (2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:
 - (i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Subsections F, K, L, M, N, and X of this Section; and
 - (ii) The function of the monitoring equipment in accordance with the requirements of Subsections F, K, L, M, N, and X of this Section; and
- (3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.
- (4) For facilities where the Director has applied alternative requirements at a regulated unit under §§ 264.90(f), 264.110(c), and/or § 264.140(d), either the alternative requirements that apply to the regulated unit, or a reference to the enforceable document containing those requirements.

(c) Until final closure of the facility, a copy of the approved post-closure plan must be furnished to the Director upon request, including request by mail. After final closure has been certified, the person or office specified in § 264.188(b)(3) must keep the approved post-closure plan during the remainder of the post-closure period.

(d) Amendment of plan. The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements in Section 270. The written notification or request must include a copy of the amended post-closure plan for review or approval by the Director.

(1) The owner or operator may submit a written notification or request to the Director for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure care period.

(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan whenever:

(i) Changes in operating plans or facility design affect the approved post-closure plan, or

(ii) There is a change in the expected year of final closure, if applicable, or

(iii) Events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan.

(iv) The owner or operator requests the Director to apply alternative requirements to a regulated unit under §§ 264.90(f), 264.110(c), and/or § 264.140(d).

(3) The owner or operator must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent post-closure plan under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Director no later than 90 days after the date that the owner or operator or Director determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310. The Director will approve, disapprove or modify this plan in accordance with the procedures in Section 270. In accordance with § 270.32 of this rule, the approved post-closure plan will become a permit condition.

(4) The Director may request modifications to the plan under the conditions described in § 264.118(d)(2). The owner or operator must submit the modified plan no later than 60 days after the Director's request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications requested by the Director will be approved, disapproved, or modified in accordance with the procedures in Section 270.

§ 264.119 Post-closure notices

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property — or on some other instrument which is normally examined during title search — that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under Section 264 Subsection G rules; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes

disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 264.116 and 264.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Director; and

(2) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (b)(1) of this section, including a copy of the document in which the notation has been placed, to the Director.

(c) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in Section 270. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of § 264.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this rule. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the Director approve either:

(1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

§ 264.120 Certification of completion of post-closure care

No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Director, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an *independent Arkansas-registered professional engineer*. Documentation supporting the *independent Arkansas-registered professional engineer's* certification must be furnished to the Director upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under § 264.145(i).

Subsection H -- Financial Requirements

§ 264.140 Applicability

(a) The requirements of §§ 264.142, 264.143, and 264.147 through 264.151 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in § 264.1.

(b) The requirements of §§ 264.144 and 264.145 apply only to owners and operators of:

(1) Disposal facilities,

(2) Piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in §§ 264.228 and 264.258.

(3) Tank systems that are required under § 264.197 to meet the requirements for landfills.

(4) Containment buildings that are required under § 264.1102 to meet the requirements for

landfills.

(c) Facilities owned and operated by the State or the Federal government are exempt from the requirements of this Subsection.

(d) The Director may replace all or part of the requirements of this subpart applying to a regulated unit with alternative requirements for financial assurance set out in the permit or in an enforceable document (as defined in § 270.1(c)(7)), where the Director:

(1) Prescribes alternative requirements for the regulated unit under § 264.90(f) and/or § 264.110(c); and

(2) Determines that it is not necessary to apply the requirements of this subpart because the alternative financial assurance requirements will protect human health and the environment.

§ 264.141 Definitions of terms as used in this Subsection

(a) “Closure plan” means the plan for closure prepared in accordance with the requirements of § 264.112.

(b) “Current closure cost estimate” means the most recent of the estimates prepared in accordance with § 264.142 (a), (b), and (c).

(c) “Current post-closure cost estimate” means the most recent of the estimates prepared in accordance with § 264.144 (a), (b), and (c).

(d) “Parent corporation” means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a “subsidiary” of the parent corporation.

(e) “Post-closure plan” means the plan for post-closure care prepared in accordance with the requirements of §§ 264.117 through 264.120.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these rules and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

“Assets” means all existing and all probable future economic benefits obtained or controlled by a particular entity.

“*Captive insurance*” means insurance for which the insurer underwrites insurance policies solely for its parent corporation or for other affiliates controlled by its parent.

“*Completed fiscal year*” shall mean a period based upon generally accepted accounting principles.”

“Current assets” means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

“Current liabilities” means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

“Current plugging and abandonment cost estimate” means the most recent of the estimates prepared in accordance with 40 CFR 144.62(a), (b), and (c).

“Independently audited” refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

“Liabilities” means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past

transactions or events.

“Net working capital” means current assets minus current liabilities.

“Net worth” means total assets minus total liabilities and is equivalent to owner’s equity.

“Tangible net worth” means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms “bodily injury” and “property damage” shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The Division intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these rules and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

“Accidental occurrence” means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

“Legal defense costs” means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

“Nonsudden accidental occurrence” means an occurrence which takes place over time and involves continuous or repeated exposure.

“Sudden accidental occurrence” means an occurrence which is not continuous or repeated in nature.

(h) “Substantial business relationship” means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A “substantial business relationship” must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the Director.

§ 264.142 Cost estimate for closure

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in §§ 264.111 through 264.115 and applicable closure requirements in §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601 through 264.603, and 264.1102.

(1) The estimate must equal the cost of final closure at the point in the facility’s active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 264.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 264.141(d).) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), that might have economic value.

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 264.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Director as specified in § 264.143(f)(3). The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after the Director has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in § 264.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with § 264.142 (a) and (c) and, when this estimate has been adjusted in accordance with § 264.142(b), the latest adjusted closure cost estimate.

§ 264.143 Financial assurance for closure

An owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (f) of this section.

(a) Closure trust fund. (1) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of

hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Director before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in § 264.143(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.143(a) of this rule, and the value of that trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Section 265 of this rule. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.143 of this rule, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.143(a) of this rule, as applicable.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Director for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Director for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Director will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Director. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the Director will instruct the trustee to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Director has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Director does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(11) The Director will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(b) Surety bond guaranteeing payment into a closure trust fund. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. An owner or operator of a new facility must submit the bond to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 264.143(a);

- (B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;
 - (C) Annual valuations as required by the trust agreement; and
 - (D) Notices of nonpayment as required by the trust agreement.
- (4) The bond must guarantee that the owner or operator will:
- (i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or
 - (ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Director becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or
 - (iii) Provide alternate financial assurance as specified in this section, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the bond from the surety.
- (5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.
- (6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).
- (7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Director.
- (8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.
- (9) The owner or operator may cancel the bond if the Director has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.
- (c) Surety bond guaranteeing performance of closure.
- (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. An owner or operator of a new facility must submit the bond to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.
 - (2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).
 - (3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments

made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust must meet the requirements specified in § 264.143(a), except that:

- (i) An originally signed duplicate of the trust agreement must be submitted to the Director with the surety bond; and
 - (ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:
 - (A) Payments into the trust fund as specified in § 264.143(a);
 - (B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;
 - (C) Annual valuations as required by the trust agreement; and
 - (D) Notices of nonpayment as required by the trust agreement.
- (4) The bond must guarantee that the owner or operator will:
- (i) Perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or
 - (ii) Provide alternate financial assurance as specified in this section, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the bond from the surety.
- (5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.
- (6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.
- (7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Director.
- (8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.
- (9) The owner or operator may cancel the bond if the Director has given prior written consent. The Director will provide such written consent when:
- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
 - (ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Director releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(d) Closure letter of credit. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Director. An owner or operator of a new facility must submit the letter of credit to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements of the trust fund specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Director by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Director have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost

estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Director.

(8) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the Director may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Director will draw on the letter of credit. The Director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Director.

(10) The Director will return the letter of credit to the issuing institution for termination when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(e) Closure insurance. (1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Director. An owner or operator of a new facility must submit the certificate of insurance *and a copy of the insurance policy* to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be 1) licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer *as recognized by the Arkansas Insurance Department; and 2) have a current rating of AAA, AA, or A as rated by Standard & Poor's; Aaa, Aa, or A if rated by Moody's, or A++, A+, A, or A- if rated by A.M. Best. Captive insurance shall not be used to provide financial assurance under the requirements of this Rule.*

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in § 264.143(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Director, to such party or parties as the Director specifies.

Note: APC&EC Rule No. 23, Sections 264 and 265, subsections H refer to acceptable bond ratings by Standard & Poor's and Moody's as BBB or higher if rated by S&P, or Baa or higher if rated by Moody's. In recent years these

rating companies have added suffixes of “+” or “-” to their ratings to indicate whether the bond is rated in the upper (+ or 1), median (no suffix, or 2) or lower (- or 3) third of all bonds rated under that category. Federal financial assurance rules have not been revised since the rating companies instituted this practice, and it is EPA’s and DEQ’s practice to consider bonds rated in the lower third (BBB- or Baa3) as if they were rated as BBB or Baa under the old rating scheme.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Director. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Director will instruct the insurer to make reimbursements in such amounts as the Director specifies in writing, if the Director determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Director has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i), that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Director does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Director consents to termination of the policy by the owner or operator as specified in paragraph (e)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these rules, warranting such remedy as the Director deems necessary. Such violation will be deemed to begin upon receipt by the Director of notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Director. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

- (i) The Director deems the facility abandoned; or
- (ii) The permit is terminated or revoked or a new permit is denied; or
- (iii) Closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or
- (iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
- (v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Director.

(10) The Director will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(f) Financial test and corporate guarantee for closure. (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's^{*}; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (40 CFR 144.70(f)).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted; *and*

(iv) A copy of the owner's or operator's independently audited financial statements for the latest completed fiscal year, with all notes and attachments.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all *four* items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Director of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a “substantial business relationship” with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (8) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). The certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor’s chief financial officer. If the guarantor’s parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a “substantial business relationship” with the owner or operator, this letter must describe this “substantial business relationship” and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(g) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Director may use any or all of the mechanisms to provide for closure of the facility.

(h) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Director must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the

mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Director has reason to believe that final closure has not been in accordance with the approved closure plan. The Director shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

§ 264.144 Cost estimate for post-closure care

(a) The owner or operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile required under §§ 264.228 and 264.258 to prepare a contingent closure and post-closure plan, must have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure rules in §§ 264.117 through 264.120, 264.228, 264.258, 264.280, 264.310, and 264.603.

(1) The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 264.141(d).)

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under § 264.117.

(b) During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 264.145. For owners or operators using the financial test or corporate guarantee, the post-closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the Director as specified in § 264.145(f)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in § 264.145(b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the post-closure cost estimate within 30 days after the Director has approved the request to modify the post-closure plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in § 264.144(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest post-closure cost estimate prepared in accordance with § 264.144 (a) and (c) and, when this estimate has been adjusted in accordance with § 264.144(b), the latest adjusted post-closure cost estimate.

§ 264.145 Financial assurance for post-closure care

The owner or operator of a hazardous waste management unit subject to the requirements of § 264.144 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the rule, whichever is later. He must choose from the following options:

(a) Post-closure trust fund. (1) An owner or operator may satisfy the requirements of this section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Director at least 60 days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the “pay-in period.” The payments into the post-closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Director before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in § 264.145(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.145(a) of this rule, and the value of that trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Section 265 of

this rule. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{\text{CE}-\text{CV}}{\text{Y}}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.145 of this rule, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.145(a) of this rule, as applicable.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Director for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Director for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Director will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

(10) During the period of post-closure care, the Director may approve a release of funds if the owner or operator demonstrates to the Director that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Director. Within 60 days after receiving bills for post-closure care activities, the Director will instruct the trustee to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Director does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Director will agree to termination of the trust when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(b) Surety bond guaranteeing payment into a post-closure trust fund. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. An owner or operator of a new facility must submit the bond to the Director at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Director becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate

decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Director.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Director has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Surety bond guaranteeing performance of post-closure care. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. An owner or operator of a new facility must submit the bond to the Director at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Perform post-closure care in accordance with the post-closure plan and other requirements of the permit for the facility; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Director's written approval of the assurance provided, within 90 days of receipt by both the owner or operator and the Director of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure

care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate.

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Director.

(8) During the period of post-closure care, the Director may approve a decrease in the penal sum if the owner or operator demonstrates to the Director that the amount exceeds the remaining cost of post-closure care.

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the Director has given prior written consent. The Director will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the Director releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(d) Post-closure letter of credit. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Director. An owner or operator of a new facility must submit the letter of credit to the Director at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements of the trust fund specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the

Director with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

- (A) Payments into the trust fund as specified in § 264.145(a);
- (B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;
- (C) Annual valuations as required by the trust agreement; and
- (D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Director by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Director have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in a amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Director.

(8) During the period of post-closure care, the Director may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Director that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Director may draw on the letter of credit.

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Director will draw on the letter of credit. The Director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Director.

(11) The Director will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(e) Post-closure insurance. (1) An owner or operator may satisfy the requirements of this section by obtaining post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance *and a copy of the insurance policy* to the Director. An owner or operator of a new facility must submit the certificate of insurance to the Director at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be 1) licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer *as recognized by the Arkansas Insurance Department*; and 2) *have a current rating of AAA, AA, or A as rated by Standard & Poor's; Aaa, Aa, or A if rated by Moody's, or A++, A+, A, or A- if rated by A.M. Best. Captive insurance shall not be used to provide financial assurance under the requirements of this Rule.*

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g). The term “face amount” means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer’s future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Director, to such party or parties as the Director specifies.

(5) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Director. Within 60 days after receiving bills for post-closure care activities, the Director will instruct the insurer to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Director does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Director consents to termination of the policy by the owner or operator as specified in paragraph (e)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these rules, warranting such remedy as the Director deems necessary. Such violation will be deemed to begin upon receipt by the Director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Director. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

- (i) The Director deems the facility abandoned; or
- (ii) The permit is terminated or revoked or a new permit is denied; or
- (iii) Closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or
- (iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
- (v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Director.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Director will give written consent to the owner or operator that he may terminate the insurance policy when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(f) Financial test and corporate guarantee for post-closure care. (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (40 CFR 144.70(f)).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted; *and*

(iv) *A copy of the owner's or operator's independently audited financial statements for the latest completed fiscal year, with all notes and attachments.*

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Director at least 60 days before the date on which hazardous waste is first received for disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all *four* items specified

in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Director of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Director may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Director that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) An owner or operator may meet the requirements for this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (9) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

- (i) If the owner or operator fails to perform post-closure care of a facility covered by

the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(g) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Director may use any or all of the mechanisms to provide for post-closure care of the facility.

(h) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Director must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. If the facilities covered by the mechanism are in more than one EPA Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of each affected Region. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the post-closure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Director will notify the owner or operator that he is no longer required to maintain financial assurance for post-closure care of that unit, unless the Director has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Director shall provide the owner or operator with a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

§ 264.146 Use of a mechanism for financial assurance of both closure and post-closure care

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both §§ 264.143 and 264.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

§ 264.147 Liability requirements

(a) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Director, or Directors if the facilities are located in more than one state. The owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer *as recognized by the Arkansas Insurance Department; and must have a current rating of AAA, AA, or A as rated by Standard & Poor's; Aaa, Aa, or A if rated by Moody's, or A++, A+, A, or A- if rated by A.M. Best. Captive insurance shall not be used to provide financial assurance under the requirements of this Rule.*

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust

fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as “primary” coverage and shall specify other assurance as “excess” coverage.

(7) An owner or operator shall notify the Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (a)(6) of this section.

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, land treatment facility, disposal miscellaneous unit that is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and non-sudden accidental occurrences must maintain liability coverage in the amount of at least \$4 million per occurrence and \$8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraphs (b) (1), (2), (3), (4), (5), or (6), of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the

endorsement or the certificate of insurance to the Director, or Directors if the facilities are located in more than one state. The owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer *as recognized by the Arkansas Insurance Department; and must have a current rating of AAA, AA, or A as rated by Standard & Poor's; Aaa, Aa, or A if rated by Moody's, or A++, A+, A, or A- if rated by A.M. Best. Captive insurance shall not be used to provide financial assurance under the requirements of this Rule.*

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amount required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Director in writing within 30 days whenever:

(i) A Claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (b)(1) through (b)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (b)(1) through (b)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (b)(1) through (b)(6) of this section.

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Director that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Director. The request for a variance must be submitted to the Director as part of the application under § 270.14 of this rule for a facility that does not have a permit, or pursuant to the procedures for permit modification under 40 CFR 124.5 for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Director's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Director may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Director to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. Any request for a variance for a permitted facility will be treated as a request for a permit modification under §§ 270.41(a)(5) and 124.5 of this rule.

(d) Adjustments by the Director. If the Director determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Director may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Director's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Director determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Director, within a reasonable time, any information which the Director requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under §§ 270.41(a)(5) and 124.5 of this rule.

(e) Period of coverage. Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Director has reason to believe that closure has not been in accordance with the approved closure plan.

(f) Financial test for liability coverage. (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (ii):

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least \$10 million; and

(C) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least \$10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following *four* items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e), and liability coverage, he must submit the letter specified in § 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in § 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted; and

(iv) *A copy of the owner's or operator's independently audited financial statements for the latest completed fiscal year, with all notes and attachments.*

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Director at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all *four* items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage must be submitted to the Director within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An

adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) Guarantee for liability coverage. (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as “guarantee.” The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a “substantial business relationship” with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in § 264.151(h)(2) of this part. A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor’s chief financial officer. If the guarantor’s parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a “substantial business relationship” with the owner or operator, this letter must describe this “substantial business relationship” and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) Letter of credit for liability coverage. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Director.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in § 264.151(k) of this part.

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(5) The wording of the standby trust fund must be identical to the wording specified in § 264.151(n).

(i) Surety bond for liability coverage. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Director.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in § 264.151(l) of this part.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (i) the State in which the surety is incorporated, and (ii) each State in which a facility covered by the surety bond is located have submitted a written statement to EPA that a surety bond executed as described in this section and § 264.151(l) of this part is a legally valid and enforceable obligation in that State.

(j) Trust fund for liability coverage. (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, “the full amount of the liability coverage to be provided” means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(4) The wording of the trust fund must be identical to the wording specified in § 264.151(m) of this part.

(k) Notwithstanding any other provision of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States.

§ 264.148 Incapacity of owners or operators, guarantors, or financial institutions

(a) An owner or operator must notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 264.143(f) and 264.145(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 264.143, § 264.145, or § 264.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 264.149 Use of State-required mechanisms

(a) For a facility located in a State where EPA is administering the requirements of this Subsection but where the State has hazardous waste rules that include requirements for financial assurance of closure or post-closure care or liability coverage, an owner or operator may use State-required financial mechanisms to meet the requirements of § 264.143, § 264.145, or § 264.147, if the Director determines that the State mechanisms are at least equivalent to the financial mechanism specified in this Subsection. The Director will evaluate the equivalency of the mechanisms principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Director may also consider other factors as he deems appropriate. The owner or operator must submit to the Director evidence of the establishment of the mechanism together with a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this Subsection. The submission must include the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage assured by the mechanism. The Director will notify the owner or operator of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this Subsection. The Director may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this Subsection by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this Subsection. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this Subsection.

[Note: Arkansas does not require a specific mechanism for demonstrating financial responsibility, but may accept a demonstration which meets the requirements of any of the mechanisms allowed under this Subsection.]

§ 264.150 State assumption of responsibility

(a) If the State either assumes legal responsibility for an owner's or operator's compliance with the closure, post-closure care, or liability requirements of this part or assures that funds will be

available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 264.143, § 264.145, or § 264.147 if the Director determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this Subsection. The Director will evaluate the equivalency of State guarantees principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Director may also consider other factors as he deems appropriate. The owner or operator must submit to the Director a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this Subsection. The letter from the State must include, or have attached to it, the following information: the facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage that are guaranteed by the State. The Director will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this Subsection. The Director may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If the State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this Subsection by use of both the State's assurance and additional financial mechanisms as specified in this Subsection. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this Subsection.

§ 264.151 Wording of the instruments

(a)(1) A trust agreement for a trust fund, as specified in § 264.143(a) or § 264.145(a) or § 265.143(a) or § 265.145(a) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "incorporated in the State of" or "a national bank"], the "Trustee."

Whereas, the Division of Environmental Quality, "DEQ", an agency of the State of Arkansas, has established certain rules applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term “Grantor” means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term “Trustee” means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the “Fund,” for the benefit of DEQ. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by DEQ.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the DEQ Director shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the DEQ Director from the Fund for closure and post-closure expenditures in such amounts as the DEQ Director shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the DEQ Director specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are

securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee

to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the DEQ Director a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the DEQ Director shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the DEQ Director, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the DEQ Director to the Trustee shall be in writing, signed by the DEQ Director or his designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or DEQ hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or DEQ, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the Director, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate Director, or by the Trustee and the appropriate DEQ Director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the DEQ Director, or by the Trustee and the DEQ Director, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the DEQ Director issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Arkansas.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in APC&EC Rule No. 23 § 264.151(a)(1) as such rules were constituted on the date first above written.

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]

(2) The following is an example of the certification of acknowledgment which must

accompany the trust agreement for a trust fund as specified in §§ 264.143(a) and 264.145(a) or §§ 265.143(a) or 265.145(a) of this rule. State requirements may differ on the proper content of this acknowledgment.

State of
County of

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

(b) A surety bond guaranteeing payment into a trust fund, as specified in § 264.143(b) or § 264.145(b) or § 265.143(b) or § 265.145(b) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Financial Guarantee Bond

Date bond executed:

Effective date:

Principal: [legal name and business address of owner or operator]

Type of Organization: [insert “individual,” “joint venture,” “partnership,” or “corporation”]

State of incorporation:

Surety(ies): [name(s) and business address(es)]

EPA Identification Number, name, address and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]:

Total penal sum of bond: \$

Surety’s bond number:

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Division of Environmental Quality (hereinafter called DEQ), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum “jointly and severally” only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the federal Resource Conservation and Recovery Act as amended (RCRA) and the Arkansas Hazardous Waste Management Act, to have a permit or interim status in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit or interim status, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin closure is issued by the DEQ Director or a U.S. district court or other court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance, as specified in Subsection H of APC&EC Rule No. 23 § 264 or 265, as applicable, and obtain the Director's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Director from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Director that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Director.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Director, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Director, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Director.

[The following paragraph is an optional rider that may be included but is not required.]
Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Director.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in APC&EC Rule No. 23 § 264.151(b) as such rules were constituted on the date this bond was executed.

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

Corporate Surety(ies)

[Name and address]

State of incorporation:]

Liability limit: \$

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$

(c) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in § 264.143(c) or § 264.145(c), must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Performance Bond

Date bond executed:

Effective date:

Principal: [legal name and business address of owner or operator]

Type of organization: [insert “individual,” “joint venture,” “partnership,” or “corporation”]

State of incorporation:

Surety(ies): [name(s) and business address(es)]

EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]:

Total penal sum of bond: \$

Surety’s bond number:

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Division of Environmental Quality (hereinafter called DEQ), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum “jointly and

severally” only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA) and the Arkansas Hazardous Waste Management Act, to have a permit in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and rules, as such laws, statutes, rules, and rules may be amended,

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance as specified in Subsection H of APC&EC Rule No. 23 § 264, and obtain the Director’s written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Director from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Director that the Principal has been found in violation of the closure requirements of APC&EC Rule No. 23 § 264, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the Director.

Upon notification by an Director that the Principal has been found in violation of the post-closure requirements of APC&EC Rule No. 23 § 264 for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the Director.

Upon notification by the Director that the Principal has failed to provide alternate financial assurance as specified in Subsection H of APC&EC Rule No. 23 § 264, and obtain written

approval of such assurance from the Director during the 90 days following receipt by both the Principal and the Director of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Director.

The surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Director, as evidenced by the return receipts.

The principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Director.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Director.

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in APC&EC Rule No. 23 § 264.151(c) as such regulation was constituted on the date this bond was executed.

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

Corporate Surety(ies)

[Name and address]

State of incorporation:

Liability limit: \$

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$

(d) A letter of credit, as specified in § 264.143(d) or § 264.145(d) or § 265.143(c) or § 265.145(c) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Director

Division of Environmental Quality

5301 Northshore Drive

North Little Rock, AR 72118

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit No. in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars \$, available upon presentation [insert, if more than one Agency is a beneficiary, "by any one of you"] of

(1) your sight draft, bearing reference to this letter of credit No. ____, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Resource Conservation and Recovery Act of 1976 as amended."

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the

draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in APC&EC Rule No. 23 § 264.151(d) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce," or "the Uniform Commercial Code"].

(e) A certificate of insurance, as specified in § 264.143(e) or § 264.145(e) or § 265.143(d) or § 265.145(d) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certificate of Insurance for Closure or Post-Closure Care

Name and Address of Insurer

(herein called the "Insurer"):

Name and Address of Insured

(herein called the "Insured"):

Facilities Covered: [List for each facility: The EPA Identification Number, name, address, and the amount of insurance for closure, the amount for post-closure care, and/or the amount for corrective action (these amounts for all facilities covered must total the face amount shown below).]

Face Amount:

Policy Number:

Effective Date:

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post-closure care" or "corrective action" or "closure and post-closure care and corrective action" or "closure and corrective action" or "post-closure care and corrective action"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of APC&EC Rule No. 23 § 264.143(e), 264.145(e), 265.143(d), and 265.145(d), as applicable and as such rules were constituted on the date shown immediately below.

It is agreed that any provision of the policy inconsistent with such rules is hereby amended to eliminate such inconsistency.

The Insurer agrees to furnish to the Director a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in APC&EC Rule No. 23 § 264.151(e) as such rules were constituted on the date shown immediately below.

[Authorized signature for Insurer]

[Name of person signing]

[Title of person signing]

Signature of witness or notary:

[Date]

(f) A letter from the chief financial officer, as specified in § 264.143(f) or § 264.145(f) or § 265.143(e) or § 265.145(e) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Letter From Chief Financial Officer

Director

Division of Environmental Quality

5301 Northshore Drive

North Little Rock, Arkansas 72118

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for closure and/or post-closure costs, as specified in subsection H of APC&EC Rule No. 23 (Hazardous Waste Management) Sections 264 and 265.

[Fill out the following five paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care].

1. This firm is the owner or operator of the following facilities in Arkansas for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in subsection H of Rule No. 23 Sections 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:_____.

2. This firm guarantees, through the guarantee specified in subsection H of Rule No. 23 Sections 264 and 265, the closure or post-closure care of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility:_____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee_____; or (3) engaged in the following substantial business relationship with the owner or operator_____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

3. In states other than Arkansas, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in subsection H of Rule No. 23. Sections 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or the State of Arkansas through the financial test or any other financial assurance mechanism specified in subsection H of Rule No. 23. Sections 264 and 265. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:_____.

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under 40 CFR part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility:_____.

This firm [insert “is required” or “is not required”] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm’s independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of § 264.143 or § 264.145, or of paragraph (e)(1)(i) of § 265.143 or § 265.145 of this rule are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of § 264.143 or § 264.145, or of paragraph (e)(1)(ii) of § 265.143 or § 265.145 of this rule are used.]

Alternative I

1. Sum of current closure and post-closure cost estimate [total of all cost estimates shown in the five paragraphs above] \$_____

*2. Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4] \$_____

*3. Tangible net worth \$_____

*4. Net worth \$_____

*5. Current assets \$_____

*6. Current liabilities \$_____

*7. Net working capital [line 5 minus line 6] \$_____

*8. The sum of net income plus depreciation, depletion, and amortization \$_____

*9. Total assets in U.S. (required only if less than 90% of firm’s assets are located in the U.S.) \$_____

10. Is line 3 at least \$10 million? (Yes/No)_____

11. Is line 3 at least 6 times line 1? (Yes/No)_____

12. Is line 7 at least 6 times line 1? (Yes/No)_____

*13. Are at least 90% of firm's assets located in the U.S.? If not, complete line 14
(Yes/No)_____

14. Is line 9 at least 6 times line 1? (Yes/No)_____

15. Is line 2 divided by line 4 less than 2.0? (Yes/No)_____

16. Is line 8 divided by line 2 greater than 0.1? (Yes/No)_____

17. Is line 5 divided by line 6 greater than 1.5? (Yes/No)_____

Alternative II

1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the five paragraphs above] \$_____

2. Current bond rating of most recent issuance of this firm and name of rating service _____

3. Date of issuance of bond_____

4. Date of maturity of bond_____

*5. Tangible net worth [if any portion of the closure and post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line] _____

*6. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.)
\$_____

7. Is line 5 at least \$10 million ? (Yes/No)_____

8. Is line 5 at least 6 times line 1? (Yes/No)_____

*9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10
(Yes/No)_____

10. Is line 6 at least 6 times line 1? (Yes/No)_____

I hereby certify that the wording of this letter is identical to the wording specified in APC&EC Rule No. 23 § 264.151(f) as such rule s were constituted on the date shown immediately below.

[Signature]_____

[Name]_____

[Title]_____

[Date]_____

(g) A letter from the chief financial officer, as specified in § 264.147(f) or § 265.147(f) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

Letter From Chief Financial Officer

Director
Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or post-closure care" if applicable] as specified in subsection H of APC&EC Rule No. 23 (Hazardous Waste Management), Sections 264 and 265.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, and address].

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in subsection of Rule No. 23, Sections 264 and 265._____

The firm identified above guarantees, through the guarantee specified in subsection H of Rule No. 23 Sections 264 and 265, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following:_____ The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee_____; or (3) engaged in the following substantial business relationship with the owner or operator_____, and receiving the following value in consideration of this guarantee_____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

[If you are using the financial test to demonstrate coverage of both liability and closure and post-closure care, fill in the following five paragraphs regarding facilities and associated closure and post-closure cost estimates. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA identification number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. The firm identified above owns or operates the following facilities in Arkansas for which financial assurance for closure or post-closure care or liability coverage is demonstrated through the financial test specified in subsection H of Rule No. 23, Sections 264 and 265. The current closure and/or post-closure cost estimate covered by the test are shown for each facility:_____.

2. The firm identified above guarantees, through the guarantee specified in subsection H of Rule No. 23, Sections 264 and 265, the closure and post-closure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for closure or post-closure care so guaranteed are shown for each facility:_____.

3. In states other than Arkansas, this firm is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in subsection H of Rule No. 23, Sections 264 and 265. The current closure or post-closure cost estimates covered by such a test are shown for each facility._____

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or the State through the financial test or any other financial assurance mechanisms specified in subsection H of Rule No. 23, Sections 264 and 265. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:_____.

5. This firm is the owner or operator or guarantor of the following UIC facilities for which financial assurance for plugging and abandonment is required under 40 CFR Part 144 and is assured through a financial test. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility:_____.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of § 264.147 or § 265.147 are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of § 264.147 or § 265.147 are used.]

Alternative I

1. Amount of annual aggregate liability coverage to be demonstrated \$_____.

*2. Current assets \$_____.

*3. Current liabilities \$_____.

4. Net working capital (line 2 minus line 3) \$_____.

*5. Tangible net worth \$_____.

*6. If less than 90% of assets are located in the U.S., give total U.S. assets \$_____.

7. Is line 5 at least \$10 million? (Yes/No)_____.

8. Is line 4 at least 6 times line 1? (Yes/No)_____.

9. Is line 5 at least 6 times line 1? (Yes/No)_____.

*10. Are at least 90% of assets located in the U.S.? (Yes/No)_____. If not, complete line 11.

11. Is line 6 at least 6 times line 1? (Yes/No) _____.

Alternative II

1. Amount of annual aggregate liability coverage to be demonstrated \$_____.

2. Current bond rating of most recent issuance and name of rating service_____.

3. Date of issuance of bond _____.

4. Date of maturity of bond _____.

*5. Tangible net worth \$ _____.

*6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) \$_____.

7. Is line 5 at least \$10 million? (Yes/No) _____.

8. Is line 5 at least 6 times line 1?_____.

9. Are at least 90% of assets located in the U.S.? If not, complete line 10. (Yes/No) _____.

10. Is line 6 at least 6 times line 1? _____.

[Fill in part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.]

Part B. Closure or Post-Closure Care and Liability Coverage

[Fill in Alternative I if the criteria of paragraphs (f)(1)(i) of § 264.143 or § 264.145 and (f)(1)(i) of § 264.147 are used or if the criteria of paragraphs (e)(1)(i) of § 265.143 or § 265.145 and (f)(1)(i) of § 265.147 are used. Fill in Alternative II if the criteria of paragraphs (f)(1)(ii) of § 264.143 or § 264.145 and (f)(1)(ii) of § 264.147 are used or if the criteria of paragraphs (e)(1)(i) of § 265.143 or § 265.145 and (f)(1)(ii) of § 265.147 are used.]

Alternative I

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above) \$_____.

2. Amount of annual aggregate liability coverage to be demonstrated \$_____.

3. Sum of lines 1 and 2 \$_____.

*4. Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6) \$_____.

*5. Tangible net worth \$_____.

*6. Net worth \$_____.

*7. Current assets \$_____.

*8. Current liabilities \$_____.

9. Net working capital (line 7 minus line 8) \$_____.

*10. The sum of net income plus depreciation, depletion, and amortization \$_____.

*11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) \$_____.

12. Is line 5 at least \$10 million? (Yes/No)

13. Is line 5 at least 6 times line 3? (Yes/No)

14. Is line 9 at least 6 times line 3? (Yes/No)

*15. Are at least 90% of assets located in the U.S.? (Yes/No) If, not, complete line 16.

16. Is line 11 at least 6 times line 3? (Yes/No)

17. Is line 4 divided by line 6 less than 2.0? (Yes/No)

18. Is line 10 divided by line 4 greater than 0.1? (Yes/No)

19. Is line 7 divided by line 8 greater than 1.5? (Yes/No)

Alternative II

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above) \$_____.
2. Amount of annual aggregate liability coverage to be demonstrated \$_____.
3. Sum of lines 1 and 2 \$_____.
4. Current bond rating of most recent issuance and name of rating service_____.
5. Date of issuance of bond_____.
6. Date of maturity of bond_____.
- *7. Tangible net worth (if any portion of the closure or post-closure cost estimates is included in “total liabilities” on your financial statements you may add that portion to this line)_____ \$_____.
- *8. Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.) \$_____.
9. Is line 7 at least \$10 million? (Yes/No)
10. Is line 7 at least 6 times line 3? (Yes/No)
- *11. Are at least 90% of assets located in the U.S.? (Yes/No) If not complete line 12.
12. Is line 8 at least 6 times line 3? (Yes/No)

I hereby certify that the wording of this letter is identical to the wording specified in Rule No. 23, § 264.151(g) as such rule s were constituted on the date shown immediately below.

[Signature]_____

[Name]_____

[Title]_____

[Date]_____

(h)(1) A corporate guarantee, as specified in § 264.143(f) or § 264.145(f), or § 265.143(e) or § 265.145(e) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Corporate Guarantee for Closure or Post-Closure Care

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert name of State], herein referred to as guarantor. This guarantee is made on behalf of the [owner or operator] of [business address], which is [one of the following: “our subsidiary”; “a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary”; or “an entity with which guarantor has a substantial business relationship, as defined in APC&EC Rule No. 23 (Hazardous Waste Management) [either § 264.141(h) or § 265.141(h)]” to the Division of Environmental Quality (DEQ).

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in Rule No. 23 §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e).
2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.]

3. “Closure plans” and “post-closure plans” as used below refer to the plans maintained as required by subpart G of Rule No. 23 Sections 264 and 265 for the closure and post-closure care of facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees to the Division that in the event that [owner or operator] fails to perform [insert “closure,” “post-closure care” or “closure and post-closure care”] of the above facility(ies) in accordance with the closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in subsection H of Rule No. 23 Sections 264 and 265, as applicable, in the name of [owner or operator] in the amount of the current closure or post-closure cost estimates as specified in subsection H of Rule No. 23 Sections 264 and 265.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Director and to [owner or operator] that he intends to provide alternate financial assurance as specified in subsection H of Rule No. 23, Sections 264 and 265, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the Director by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the Director of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in subsection H of Rule No. 23, Sections 264 or 265, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to Rule No. 23 Section 264 or 265.

9. Guarantor agrees to remain bound under this guarantee for as long as [owner or operator] must comply with the applicable financial assurance requirements of subsection H of Rule No. 23 Section 264 or 265 for the above-listed facilities, except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the Director and to [owner or operator], provided that this guarantee may not be terminated unless and until [the

owner or operator] obtains, and the Director approve(s), alternate closure and/or post-closure care coverage complying with Rule No. 23 §§ 264.143, 264.145, 265.143, and/or 265.145.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its “substantial business relationship” with its owner or operator]

Guarantor may terminate this guarantee 120 days following the receipt of notification, through certified mail, by the Director and by [the owner or operator].

11. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in subsection H of Rule No. 23, Section 264 or 265, as applicable, and obtain written approval of such assurance from the Director within 90 days after a notice of cancellation by the guarantor is received by the Director from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

12. Guarantor expressly waives notice of acceptance of this guarantee by the Division or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in APC&EC Rule No. 23, § 264.151(h) as such rule s were constituted on the date first above written.

Effective date: _____
[Name of guarantor] _____
[Authorized signature for guarantor] _____
[Name of person signing] _____
[Title of person signing] _____
Signature of witness or notary: _____

(2) A guarantee, as specified in § 264.147(g) or § 265.147(g) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Guarantee for Liability Coverage

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert “the State of _____” and insert name of State; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the State of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of [owner or operator] of [business address], which is one of the following: “our subsidiary;” “a subsidiary of [name and address of common parent corporation], or which guarantor is a subsidiary;” or “an entity with which guarantor has a substantial business relationship, as defined in APC&EC Rule No. 23 § 264.141(h)”, to any and all third parties who have sustained or may sustain bodily injury or property damage caused by

[sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in Rule No. 23 §§ 264.147(g) and 265.147(g).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA identification number, name, and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor's registered agent in each State.] This corporate guarantee satisfies RCRA third-party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s) or settlement agreement(s) up to the limits of coverage identified above.

4. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert owner or operator]. This exclusion applies:

(A) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert owner or operator];

(2) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert owner or operator];

(4) Personal property in the care, custody or control of [insert owner or operator];

(5) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Director and to [owner or operator] that he intends to provide alternate liability coverage as specified in Rule No. 23 § 264.147 and 265.147, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.

6. The guarantor agrees to notify the Director by certified mail of a voluntary or involuntary proceeding under title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the Director of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in Rule No. 23 § 264.147 or 265.147 in the name of [owner or operator], unless [owner or operator] has done so.

8. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by Rule No. 23 §§ 264.147 and 265.147, provided that such modification shall become effective only if the Director does not disapprove the modification within 30 days of receipt of notification of the modification.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of Rule No. 23 §§ 264.147 and 265.147 for the above-listed facility(ies), except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the Director and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the Director approve(s), alternate liability coverage complying with Rule No. 23 §§ 264.147 and/or 265.147.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its “substantial business relationship” with the owner or operator]:
Guarantor may terminate this guarantee 120 days following receipt of notification, through certified mail, by the Director and by [the owner or operator].

11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

13. The Guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents:

(a) Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal’s hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$

[Signatures]_____

Principal_____

(Notary) Date_____

[Signatures]_____

Claimant(s)_____

(Notary) Date)_____

A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal’s facility or group of facilities.

14. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert “primary” or “excess”] coverage.

I hereby certify that the wording of the guarantee is identical to the wording specified in Rule No. 23 § 264.151(h)(2) as such rule s were constituted on the date shown immediately below.

Effective date: _____

[Name of guarantor]_____
Authorized signature for guarantor]_____
[Name of person signing]_____
[Title of person signing]_____
Signature of witness of notary:_____

(i) A hazardous waste facility liability endorsement as required in § 264.147 or § 265.147 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Waste Facility Liability Endorsement

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under APC&EC Rule No. 23 § 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in APC&EC Rule No. 23 § 264.147(f) or 265.147(f).

(c) Whenever requested by the Director of the Division of Environmental Quality (DEQ), the Insurer agrees to furnish to the Director a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Director.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Director.

Attached to and forming part of policy No. issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this day of, 19 . The effective date of said policy is day of , 19 .

I hereby certify that the wording of this endorsement is identical to the wording specified in APC&EC Rule No. 23 § 264.151(i) as such rule was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorized Representative of Insurer]

[Type name]

[Title], Authorized Representative of [name of Insurer]

[Address of Representative]

(j) A certificate of liability insurance as required in § 264.147 or § 265.147 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Waste Facility Certificate of Liability Insurance

1. [Name of Insurer], (the “Insurer”), of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the “insured”), of [address of insured] in connection with the insured’s obligation to demonstrate financial responsibility under APC&EC Rule No. 23 § 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert “sudden accidental occurrences,” “nonsudden accidental occurrences,” or “sudden and nonsudden accidental occurrences”]; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the “each occurrence” and “annual aggregate” limits of the Insurer’s liability], exclusive of legal defense costs. The coverage is provided under policy number , issued on [date]. The effective date of said policy is [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in APC&EC Rule No. 23 § 264.147(f) or 265.147(f).

(c) Whenever requested by the Director of the Division-of Environmental Quality (DEQ), the Insurer agrees to furnish to the Director a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Director.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Director.

I hereby certify that the wording of this instrument is identical to the wording specified in APC&EC Rule No. 23 § 264.151(j) as such rule was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorized representative of Insurer]
[Type name]
[Title], Authorized Representative of [name of Insurer]
[Address of Representative]

(k) A letter of credit, as specified in § 264.147(h) or § 265.147(h) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Name and Address of Issuing Institution
Director
Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118

Dear Sir:

We hereby establish our Irrevocable Standby Letter of Credit No. in the favor of any and all third-party liability claimants, at the request and for the account of [owner's or operator's name and address] for third-party liability awards or settlements up to [in words] U.S. dollars \$ per occurrence and the annual aggregate amount of [in words] U.S. dollars \$, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars \$ per occurrence, and the annual aggregate amount of [in words] U.S. dollars \$, for nonsudden accidental occurrences available upon presentation of a sight draft, bearing reference to this letter of credit No. , and (1) a signed certificate reading as follows:

Certification of Valid Claim

The undersigned, as parties [insert principal] and [insert name and address of third-party claimants], hereby certify that the claim of bodily injury [and/or] property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of [principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$. We hereby certify that the claim does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal].

This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures]

Principal

[Signatures]

Claimant(s)

or (2) a valid final court order establishing a judgment against the principal for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from operation of the principal's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date]

and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify you, the DEQ Director, and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

[Insert the following language if a standby trust fund is not being used:

“In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert “primary” or “excess”] coverage.”]

We certify that the wording of this letter of credit is identical to the wording specified in APC&EC Rule No. 23 § 264.151(k) as such rules were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]

[Date]

This credit is subject to [insert “the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce” or “the Uniform Commercial Code”].

(1) A surety bond, as specified in § 264.147(h) or § 265.147(h) of this rule, must be worded as follows: except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Payment Bond

Surety Bond No. [Insert number]

Parties [Insert name and address of owner or operator], Principal, incorporated in [Insert State of incorporation] of [Insert city and State of principal place of business] and [Insert name and address of surety company(ies)], Surety Company(ies), of [Insert surety(ies) place of business].

EPA Identification Number, name, and address for each facility guaranteed by this bond:

Sudden accidental occurrences

Nonsudden accidental occurrences

Penal Sum Per Occurrence

[insert amount]

[insert amount]

Annual Aggregate

[insert amount]

[insert amount]

Purpose: This is an agreement between the Surety(ies) and the Principal under which the Surety(ies), its(their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by [“sudden” and/or “nonsudden”] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

(1) Section 3004 of the Resource Conservation and Recovery Act of 1976, as amended.

(2) Rules and regulations of the Division-of Environmental Quality, (DEQ) particularly APC&EC Rule No. 23 § [“§ 264.147” or “§ 265.147”] (if applicable).

(3) Rules and regulations of the U.S. Environmental Protection Agency, 40 CFR Part [“264.147” or “265.147”, as applicable].

Conditions:

(1) The Principal is subject to the applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by [“sudden” and/or “nonsudden”] accidental occurrences arising from operations of the facility or group of facilities. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers’ compensation, disability benefits, or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

- (4) Personal property in the care, custody or control of [insert principal];
- (5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.
- (2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition 1.
- (3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.
- (4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:
- (a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert name of Principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[].

[Signature]

Principal

[Notary] Date

[Signature(s)]

Claimant(s)

[Notary] Date

or (b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

(6) The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the Director forthwith of all claims filed and payments made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the DEQ Director, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal and the Director, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the Director.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

(10) This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in APC&EC Rule No. 23 § 264.151(1), as such rule s were constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate Seal]

CORPORATE SURETY[IES]

[Name and address]

State of incorporation:

Liability Limit: \$

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$

(m)(1) A trust agreement, as specified in § 264.147(j) or § 265.147(j) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator] a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert, "incorporated in the State of " or "a national bank"], the "trustee."

Whereas, the United States Environmental Protection Agency, "EPA," an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, hereinafter the "Fund," for the benefit of any and all third parties injured or damaged by [sudden and/or non-sudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of [up to \$1 million] per occurrence and [up to \$2 million] annual aggregate for sudden accidental occurrences and [up to \$3 million] per occurrence and [up to \$6 million] annual aggregate for non-sudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by DEQ.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents;

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[].

[Signatures]

Grantor

[Signatures]

Claimant(s)

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common commingled, or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuations. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Director, DEQ a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Director shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Director, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Director to the Trustee shall be in writing, signed by the Director, or his designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or DEQ hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. Notice of Nonpayment. If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within five (5) working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of

claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equalling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within 10 working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the Director.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Director, or by the Trustee and the Director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Director, or by the Trustee and the Director, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The Director will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Director issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Arkansas.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in APC&EC Rule No. 23 § 264.151(m) as such rules were constituted on the date first above written.

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]

(2) The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in §§ 264.147(j) or 265.147(j) of this rule. State requirements may differ on the proper content of this acknowledgement.

State of

County of

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

(n)(1) A standby trust agreement, as specified in § 264.147(h) or 265.147(h) of this rule, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Standby Trust Agreement

Trust Agreement, the “Agreement,” entered into as of [date] by and between [name of the owner or operator] a [name of a State] [insert “corporation,” “partnership,” “association,” or “proprietorship”], the “Grantor,” and [name of corporate trustee], [insert, “incorporated in the State of _____” or “a national bank”], the “trustee.”

Whereas the United States Environmental Protection Agency, “EPA,” an agency of the United States Government, and the Division of Environmental Quality, an agency of the State of Arkansas, have established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a standby trust into which the proceeds from a letter of credit may be deposited to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term “Grantor” means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term “Trustee” means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a standby trust fund, hereafter the “Fund,” for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____ [up to \$1 million] per occurrence and _____ [up to \$2 million] annual aggregate for sudden accidental occurrences and _____ [up to \$3 million] per occurrence and _____ [up to \$6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers’ compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

- (1) Any property owned, rented, or occupied by [insert Grantor];
- (2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;
- (3) Property loaned by [insert Grantor];
- (4) Personal property in the care, custody or control of [insert Grantor];
- (5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the proceeds of the letter of credit deposited into the Fund. Such proceeds and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Division.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by drawing on the letter of credit described in Schedule B and by making payments from the Fund only upon receipt of one of the following documents:

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of \$[].

[Signature]_____

Grantor_____

[Signatures]_____

Claimant(s)_____

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of the proceeds from the letter of credit drawn upon by the Trustee in accordance with the requirements of Rule No. 23 § 264.151(k) and Section 4 of this Agreement.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the

purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements to the Trustee shall be paid from the Fund.

Section 10. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 11. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 12. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of

the trust in a writing sent to the Grantor, the Director, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 13. Instructions to the Trustee. All orders, requests, certifications of valid claims, and instructions to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Director hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Division, except as provided for herein.

Section 14. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Director, or by the Trustee and the Director if the Grantor ceases to exist.

Section 15. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 14, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Director, or by the Trustee and the Director, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be paid to the Grantor.

The Director will agree to termination of the Trust when the owner or operator substitutes alternative financial assurance as specified in this section.

Section 16. Immunity and indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor and the Director issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonable incurred in its defense in the event the Grantor fails to provide such defense.

Section 17. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Arkansas.

Section 18. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation of the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in APC&EC Rule No. 23 § 264.151(n) as such rules were constituted on the date first above written.

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]

(2) The following is an example of the certification of acknowledgement which must accompany the trust agreement for a standby trust fund as specified in section 264.147(h) or 265.147(h) of this rule. State requirements may differ on the proper content of this acknowledgement.

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

Subsection I -- Use and Management of Containers.

§ 264.170 Applicability

The rules in this Subsection apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as § 264.1 provides otherwise.

[Comment: Under § 261.7 and § 261.33(c), if a hazardous waste is emptied from a container the residue remaining in the container is not considered a hazardous waste if the container is “empty” as defined in § 261.7. In that event, management of the container is exempt from the requirements of this Subsection.]

§ 264.171 Condition of containers

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this part.

§ 264.172 Compatibility of waste with containers

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

§ 264.173 Management of containers

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

[Comment: Reuse of containers in transportation is governed by U.S. Department of Transportation regulations including those set forth in 49 CFR 173.28.]

§ 264.174 Inspections

At least weekly, the owner or operator must inspect areas where containers are stored. The owner or operator must look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. See §§ 264.15(c) and 264.171 for remedial action required if deterioration or leaks are detected.

§ 264.175 Containment

(a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section.

(b) A containment system must be designed and operated as follows:

(1) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) *The containment structure must have an impermeable coating on all surfaces, including side walls and curbs, sufficiently high so as to extend above any contained spill. Penetrating sealants are not adequate to meet this coating requirement.*

(3) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(4) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(5) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (b)(3) of this section to contain any run-on which might enter the system; and

(6) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

[Comment: If the collected material is a hazardous waste under Section 261, it must be managed as a hazardous waste in accordance with all applicable requirements of §§ 262-266 of this rule. If the collected material is

discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.]

(c) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by paragraph (b) of this section, except as provided by paragraph (d) of this section or provided that:

(1) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation, or

(2) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(d) Storage areas that store containers holding the wastes listed below that do not contain free liquids must have a containment system defined by paragraph (b) of this section:

(1) F020, F021, F022, F023, F026, and F027.

(2) [Reserved]

§ 264.176 Special requirements for ignitable or reactive waste

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[Comment: See § 264.17(a) for additional requirements.]

§ 264.177 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), must not be placed in the same container, unless § 264.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

[Comment: As required by § 264.13, the waste analysis plan must include analyses needed to comply with § 264.177. Also, § 264.17(c) requires wastes analyses, trial tests or other documentation to assure compliance with § 264.17(b). As required by § 264.73, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.]

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Comment: The purpose of this section is to prevent fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.]

§ 264.178 Closure

At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with § 261.3(d) of this rule that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Sections 262 through 266 of this rule].

§ 264.179 Air emission standards

The owner or operator shall manage all hazardous waste placed in a container in accordance with the requirements of subsections AA, BB, and CC of this Section.

Subsection J -- Tank Systems

§ 264.190 Applicability

The requirements of this Subsection apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (a), (b), and (c) of this section or in § 264.1 of this part.

(a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in § 264.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095B (Paint Filter Liquids Test) as described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(b) Tank systems, including sumps, as defined in § 260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in § 264.193(a).

(c) Tanks, sumps, and other such collection devices or systems used in conjunction with drip pads, as defined in § 260.10 of this rule and regulated under Subsection W of this section, must meet the requirements of this Subsection.

§ 264.191 Assessment of existing tank system’s integrity

(a) For each existing tank system that does not have secondary containment meeting the requirements of § 264.193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by *an independent, qualified Arkansas-registered professional engineer*, in accordance with § 270.11(d), that attests to the tank system’s integrity by January 12, 1988.

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

- (1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;
- (2) Hazardous characteristics of the waste(s) that have been and will be handled;
- (3) Existing corrosion protection measures;
- (4) Documented age of the tank system, if available (otherwise, an estimate of the age); and
- (5) Results of a leak test, internal inspection, or other tank integrity examination such that:
 - (i) For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects, and
 - (ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity

examination, that is certified by an independent, qualified, Arkansas-registered professional engineer in accordance with § 270.11(d), that addresses cracks, leaks, corrosion, and erosion.

[Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.]

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986, must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a), a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of § 264.196.

§ 264.192 Design and installation of new tank systems or components

(a) Owners or operators of new tank systems or components must obtain and submit to the Director, at time of submittal of Part B information, a written assessment, reviewed and certified by an *independent, qualified Arkansas-registered professional engineer*, in accordance with § 270.11(d), attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the Director to review and approve or disapprove the acceptability of the tank system design, must include, at a minimum, the following information:

(1) Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;

(2) Hazardous characteristics of the waste(s) to be handled;

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures (e.g., piping);

(G) Existence of stray electric current;

(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(A) Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc.;

(B) Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes); and

(C) Electrical isolation devices such as insulating joints, flanges, etc.

[Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85) — Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in providing corrosion protection for tank systems.]

(4) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;

(ii) Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of § 264.18(a); and

(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, Arkansas-registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of any of the following items:

(1) Weld breaks;

(2) Punctures;

(3) Scrapes of protective coatings;

(4) Cracks;

(5) Corrosion;

(6) Other structural damage or inadequate construction/installation.

All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed into use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

[Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems," or ANSI Standard B31.3, "Petroleum Refinery Piping," and ANSI Standard B31.4 "Liquid Petroleum Transportation Piping System," may be used, where applicable, as guidelines for proper installation of piping systems.]

(f) The owner or operator must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under paragraph (a)(3) of this section, or other corrosion protection if the Director believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised

by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section, that attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section, were performed. These written statements must also include the certification statement as required in § 270.11(d) of this rule.

§ 264.193 Containment and detection of releases

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new and existing tank systems or components, prior to their being put into service;

(2) For tank systems that store or treat materials that become hazardous wastes, within two years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the wastes(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic).

(2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the Director that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the Director that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

[Note: If the collected material is a hazardous waste under Section 261 of this rule, it is subject to management as a hazardous waste in accordance with all applicable requirements of sections 262 through 265 of this rule. If the collected material is discharged through a point source to waters of the State, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to a Publicly Owned Treatment Works (POTW), it is subject to the requirements of section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302.]

(d) Secondary containment for tanks must include one or more of the following devices:

- (1) A liner (external to the tank);
- (2) A vault;
- (3) A double-walled tank; or
- (4) An equivalent device as approved by the Director

(e) In addition to the requirements of paragraphs (b), (c), and (d) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

- (i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;
- (ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.
- (iii) Free of cracks or gaps; and
- (iv) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

- (i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;
- (ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;
- (iii) Constructed with chemical-resistant water stops in place at all joints (if any);
- (iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;
- (v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:
 - (A) Meets the definition of ignitable waste under § 261.21 of this rule; or
 - (B) Meets the definition of reactive waste under § 261.23 of this rule, and may form an ignitable or explosive vapor.
- (vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

- (i) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell.
- (ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell: and
- (iii) Provided with a built-in continuous leak detection system capable of detecting a

release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Director, and the Director concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

[Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.]

(f) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

- (1) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;
- (2) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;
- (3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and
- (4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this section if the Director finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the ground water; or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section.

(1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the Director will consider:

- (i) The nature and quantity of the wastes;
- (ii) The proposed alternate design and operation;
- (iii) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and ground water, and
- (iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water

(2) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the Director will consider:

- (i) The potential adverse effects on ground water, surface water, and land quality taking into account:
 - (A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration.
 - (B) The hydrogeological characteristics of the facility and surrounding land,
 - (C) The potential for health risks caused by human exposure to waste constituents,
 - (D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and
 - (E) The persistence and permanence of the potential adverse effects;
- (ii) The potential adverse effects of a release on ground-water quality, taking into

account:

- (A) The quantity and quality of ground water and the direction of ground-water flow,
- (B) The proximity and withdrawal rates of ground-water users,
- (C) The current and future uses of ground water in the area, and
- (D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;
- (iii) The potential adverse effects of a release on surface water quality, taking into

account:

- (A) The quantity and quality of ground water and the direction of ground-water flow,
- (B) The patterns of rainfall in the region,
- (C) The proximity of the tank system to surface waters,
- (D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and
- (E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and
- (iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:
 - (A) The patterns of rainfall in the region, and
 - (B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:

- (i) Comply with the requirements of § 264.196, except paragraph (d), and
- (ii) Decontaminate or remove contaminated soil to the extent necessary to:
 - (A) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and
 - (B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and
- (iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirement of § 264.197(b).

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

- (i) Comply with the requirements of § 264.196 (a), (b), (c), and (d); and
- (ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if ground water has been contaminated, the owner or operator must comply with the requirements of § 264.197(b); and
- (iii) If repairing, replacing, or reinstalling the tank system, provide secondary

containment in accordance with the requirements of paragraphs (a) through (f) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in § 264.192 if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed and ground water or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The Director must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (g) of this section according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with paragraph (a) of this section.

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation.

(2) As part of the notification, the owner or operator must also submit to the Director a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or paragraph (g)(2) of this section;

(3) The demonstration for a variance must be completed within 180 days after notifying the Director of an intent to conduct the demonstration; and

(4) If a variance is granted under this paragraph, the Director will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

(i) All tank systems, until such time as secondary containment that meets the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of § 264.191(b)(5) or other tank integrity method, as approved or required by the Director, must be conducted at least annually.

(2) For other than non-enterable underground tanks, the owner or operator must either conduct a leak test as in paragraph (i)(1) of this section or develop a schedule and procedure for an assessment of the overall condition of the tank system by an *independent, qualified Arkansas-registered professional engineer*. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.

(3) For ancillary equipment, a leak test or other integrity assessment as approved by the Director must be conducted at least annually.

[Note: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.]

(4) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(5) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of § 264.196.

§ 264.194 General operating requirements

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

- (1) Spill prevention controls (e.g., check valves, dry disconnect couplings);
- (2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and
- (3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of § 264.196 if a leak or spill occurs in the tank system.

§ 264.195 Inspections

(a) The owner or operator must develop and follow a schedule and procedure for inspecting overfill controls.

(b) The owner or operator must inspect at least once each operating day data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design:

[Note: Section 264.15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section 264.196 requires the owner or operator to notify the Director within 24 hours of confirming a leak. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of a release.]

(c) In addition, except as noted under paragraph (d) of this section, the owner or operator must inspect at least once each operating day:

- (1) Above ground portions of the tank system, if any, to detect corrosion or releases of waste.
- (2) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

(d) Owners or operators of tank systems that either use leak detection systems to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, must inspect at least weekly those areas described in paragraphs (c) (1) and (c)(2) of this section. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

(e) **[Reserved]**

(f) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

- (1) The proper operation of the cathodic protection system must be confirmed within six

months after initial installation and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

[Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85) — Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.]

(g) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) through (c) of this section.

§ 264.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) Cessation of use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) Removal of waste from tank system or secondary containment system. (1) If the release was from the tank system, the owner/operator must, within 24 hours after detection of the leak or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) Containment of visible releases to the environment. The owner/operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports. (1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Director within 24 hours of its detection. If the release has been reported pursuant to 40 CFR part 302, that report will satisfy this requirement.

(2) A leak or spill of hazardous waste is exempted from the requirements of this paragraph if it is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned up.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Director:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Director as soon as they become

available.

(iv) Proximity to downgradient drinking water, surface water, and populated areas;
and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure.

(1) Unless the owner/operator satisfies the requirements of paragraphs (e)(2) through (4) of this section, the tank system must be closed in accordance with § 264.197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of § 264.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in §§ 264.192 and 264.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with § 264.193 prior to being returned to use.

(f) Certification of major repairs. If the owner/operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, registered, professional engineer in accordance with § 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Director within seven days after returning the tank system to use.

[Note: The Director may, on the basis of any information received that there is or has been a release of hazardous waste, hazardous constituents, and/or hazardous substances into the environment, issue an order under the Arkansas Remedial Action Trust Fund Act (A.C.A. §§ 8-7-501 *et seq.*) requiring corrective action or such other response as deemed necessary to protect human health or the environment.]

[Note: See § 264.15(c) for the requirements necessary to remedy a failure. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of certain releases.]

§ 264.197 Closure and post-closure care

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless § 261.3(d) of this rule applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in Subsections

G and H of this part.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 264.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in Subsections G and H of this part.

(c) If an owner or operator has a tank system that does not have secondary containment that meets the requirements of § 264.193 (b) through (f) and has not been granted a variance from the secondary containment requirements in accordance with § 264.193(g), then:

(1) The closure plan for the tank system must include both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.

(2) A contingent post-closure plan for complying with paragraph (b) of this section must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section.

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section.

(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under Subsections G and H of this section.

§ 264.198 Special requirements for ignitable or reactive wastes

(a) Ignitable or reactive waste must not be placed in tank systems, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under §§ 261.21 or 261.23 of this rule, and

(ii) Section 264.17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in a tank must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see § 260.11).

§ 264.199 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank system, unless § 264.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless § 264.17(b) is complied with.

§ 264.200 Air emission standards

The owner or operator shall manage all hazardous waste placed in a tank in accordance with the requirements of subsections AA, BB, and CC of this Section.

Subsection K -- Surface Impoundments

§ 264.220 Applicability

The rules in this Subsection apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste except as § 264.1 provides otherwise.

§ 264.221 Design and operating requirements

(a) Any surface impoundment that is not covered by paragraph (c) of this section or § 265.221 of this rule must have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with § 264.228(a)(1). For impoundments that will be closed in accordance with § 264.228(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Director finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Director will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992 and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system between such liners. "Construction commences" is as defined in § 260.10 of this rule under "existing facility".

(1)(i) The liner system must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

(ii) The liners must comply with paragraphs (a) (1), (2), and (3) of this section.

(2) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-1} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-4} m²/sec or more;

(iii) Constructed of materials that are chemically resistant to the waste managed in the surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes and any waste cover materials or equipment used at the surface impoundment;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(3) The owner or operator shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner.

- (4) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.
- (d) The Director may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Director that such design and operating practices, together with location characteristics:
- (1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal system specified in paragraph (c) of this section; and
 - (2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.
- (e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Director for any monofill, if:
- (1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in § 261.24 of this rule; and
 - (2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph, the term “liner” means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (c) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment, the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment will comply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;
 - (B) The monofill is located more than one-quarter mile from an “underground source of drinking water” (as that term is defined in APC&EC Rule 23 § 270.2); and
 - (C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA section 3005(c); or
 - (ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.
- (f) The owner or operator of any replacement surface impoundment unit is exempt from paragraph (c) of this section if:
- (1) The existing unit was constructed in compliance with the design standards of sections 3004 (o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and
 - (2) There is no reason to believe that the liner is not functioning as designed.
- (g) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

(h) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

(i) The Director will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

§ 264.222 Action leakage rate

(a) The Director shall approve an action leakage rate for surface impoundment units subject to § 264.221 (c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 264.226(d) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit is closed in accordance with § 264.228(b), monthly during the post-closure care period when monthly monitoring is required under § 264.226(d).

§ 264.223 Response actions

(a) The owner or operator of surface impoundment units subject to § 264.221 (c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

- (1) Notify the Director in writing of the exceedance within 7 days of the determination;
- (2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;
- (3) Determine to the extent practicable the location, size, and cause of any leak;
- (4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;
- (5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and
- (6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in paragraphs (b) (3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as

the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b) (3), (4), and (5) of this section, the owner or operator must:

- (1)(i) Assess the source of liquids and amounts of liquids by source,
 - (ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and
 - (iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or
- (2) Document why such assessments are not needed.

§§ 264.224 -- 264.225 [Reserved]

§ 264.226 Monitoring and inspection

(a) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from § 264.221(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

- (1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and
- (2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

- (1) Deterioration, malfunctions, or improper operation of overtopping control systems;
- (2) Sudden drops in the level of the impoundment's contents; and
- (3) Severe erosion or other signs of deterioration in dikes or other containment devices.

(c) Prior to the issuance of a permit, and after any extended period of time (at least six months) during which the impoundment was not in service, the owner or operator must obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification must establish, in particular, that the dike:

- (1) Will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and
- (2) Will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(d)(1) An owner or operator required to have a leak detection system under § 264.221 (c) or (d) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

- (2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the

sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) “Pump operating level” is a liquid level proposed by the owner or operator and approved by the Director based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

§ 264.227 Emergency repairs; contingency plans

(a) A surface impoundment must be removed from service in accordance with paragraph (b) of this section when:

(1) The level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(2) The dike leaks.

(b) When a surface impoundment must be removed from service as required by paragraph (a) of this section, the owner or operator must:

(1) Immediately shut off the flow or stop the addition of wastes into the impoundment;

(2) Immediately contain any surface leakage which has occurred or is occurring;

(3) Immediately stop the leak;

(4) Take any other necessary steps to stop or prevent catastrophic failure;

(5) If a leak cannot be stopped by any other means, empty the impoundment; and

(6) Notify the Director of the problem in writing within seven days after detecting the problem.

(c) As part of the contingency plan required in Subsection D of this section, the owner or operator must specify a procedure for complying with the requirements of paragraph (b) of this section.

(d) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(1) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike’s structural integrity must be recertified in accordance with § 264.226(c).

(2) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

(i) For any existing portion of the impoundment, a liner must be installed in compliance with § 264.221(a); and

(ii) For any other portion of the impoundment, the repaired liner system must be certified by a qualified engineer as meeting the design specifications approved in the permit.

(e) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not being repaired must be closed in accordance with the provisions of § 264.228.

§ 264.228 Closure and post-closure care

(a) At closure, the owner or operator must:

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this rule applies; or

(2)(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the final cover;

(D) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with all post-closure requirements contained in §§ 264.117 through 264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under § 264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with §§ 264.221(c)(2)(iv) and (3) and 264.226(d), and comply with all other applicable leak detection system requirements of this part;

(3) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Subsection F of this part; and

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(c)(1) If an owner or operator plans to close a surface impoundment in accordance with paragraph (a)(1) of this section, and the impoundment does not comply with the liner requirements of § 264.221(a) and is not exempt from them in accordance with § 264.221(b), then:

(i) The closure plan for the impoundment under § 264.112 must include both a plan for complying with paragraph (a)(1) of this section and a contingent plan for complying with paragraph (a)(2) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) The owner or operator must prepare a contingent post-closure plan under § 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 264.142 and 264.144 for closure and post-closure care of an impoundment subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a)(1) of this section.

§ 264.229 Special requirements for ignitable or reactive wastes

Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of § 268 and 40 CFR Part 268, and:

- (a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:
 - (1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this rule; and
 - (2) Section 264.17(b) is complied with; or
- (b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or
- (c) The surface impoundment is used solely for emergencies.

§ 264.230 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this Section for examples) must not be placed in the same surface impoundment, unless § 264.17(b) is complied with.

§ 264.231 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 must not be placed in a surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the Director pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

- (1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
- (2) The attenuative properties of underlying and surrounding soils or other materials;
- (3) The mobilizing properties of other materials co-disposed with these wastes; and
- (4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Director may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

§ 264.232 Air emission standards

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the requirements of subsections BB and CC of this Section.

Subsection L -- Waste Piles

§ 264.250 Applicability

(a) The rules in this Subsection apply to owners and operators of facilities that store or treat hazardous waste in piles, except as § 264.1 provides otherwise.

(b) The rules in this Subsection do not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation under Subsection N of this section (Landfills).

(c) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not subject to regulation under § 264.251 or under Subsection F of this section, provided that:

- (1) Liquids or materials containing free liquids are not placed in the pile;
- (2) The pile is protected from surface water run-on by the structure or in some other manner;
- (3) The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and
- (4) The pile will not generate leachate through decomposition or other reactions.

§ 264.251 Design and operating requirements

(a) A waste pile (except for an existing portion of a waste pile) must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. The Director will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the pile and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and

(ii) Designed and operated to function without clogging through the scheduled closure of the waste pile.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section, if the Director finds, based on a demonstration by the owner or operator, that alternate

design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Director will consider:

- (1) The nature and quantity of the wastes;
 - (2) The proposed alternate design and operation;
 - (3) The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and ground water or surface water; and
 - (4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.
- (c) The owner or operator of each new waste pile unit, each lateral expansion of a waste pile unit, and each replacement of an existing waste pile unit must install two or more liners and a leachate collection and removal system above and between such liners.
- (1)(i) The liner system must include:
 - (A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and
 - (B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.
 - (ii) The liners must comply with paragraphs (a)(1)(i), (ii), and (iii) of this section.
- (2) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the waste pile during the active life and post-closure care period. The Director will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (c)(3)(iii) and (iv) of this section.
- (3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:
- (i) Constructed with a bottom slope of one percent or more;
 - (ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more;
 - (iii) Constructed of materials that are chemically resistant to the waste managed in the waste pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste

cover materials, and equipment used at the waste pile;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.

(d) The Director may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Director that such design and operating practices, together with location characteristics:

(1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(e) Paragraph (c) of this section does not apply to monofills that are granted a waiver by the Director in accordance with § 264.221(e).

(f) The owner or operator of any replacement waste pile unit is exempt from paragraph (c) of this section if:

(1) The existing unit was constructed in compliance with the design standards of Section 3004(o)(1)(A)(i) and (o)(5) of the federal Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(g) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(h) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(i) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(j) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the pile to control wind dispersal.

(k) The Director will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

§ 264.252 Action leakage rate

(a) The Director shall approve an action leakage rate for waste pile units subject to § 264.251(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage

rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under § 264.254(c) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

§ 264.253 Response actions

(a) The owner or operator of waste pile units subject to § 264.251 (c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Director in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and long-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in paragraphs (b) (3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b) (3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

§ 264.254 Monitoring and inspection

(a) During construction or installation, liners (except in the case of existing portions of piles exempt from § 264.251(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(c) An owner or operator required to have a leak detection system under § 264.251(c) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

§ 264.255 [Reserved]

§ 264.256 Special requirements for ignitable or reactive waste

Ignitable or reactive waste must not be placed in a waste pile unless the waste and waste pile satisfy all applicable requirements of § 268 and 40 CFR part 268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the pile so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this rule; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

§ 264.257 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this section for examples) must not be placed in the same pile, unless § 264.17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in containers, other piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(c) Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with § 264.17(b).

§ 264.258 Closure and post-closure care

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this rule applies.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 264.310).

(c)(1) The owner or operator of a waste pile that does not comply with the liner requirements of § 264.251(a)(1) and is not exempt from them in accordance with § 264.250(c) or § 264.251(b), must:

(i) Include in the closure plan for the pile under § 264.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent post-closure plan under § 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 264.142 and 264.144 for closure and post-closure care of a pile subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

§ 264.259 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 must not be placed in waste piles that are not enclosed (as defined in § 264.250(c)) unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the Director pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Director may determine that additional design, operating, and monitoring requirements are necessary for piles managing hazardous wastes F020, F021, F022, F023, F026, and, F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Subsection M -- Land Treatment

§ 264.270 Applicability

The rules in this Subsection apply to owners and operators of facilities that treat or dispose of hazardous waste in land treatment units, except as § 264.1 provides otherwise.

§ 264.271 Treatment Program

(a) An owner or operator subject to this Subsection must establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The Director will specify in the facility permit the elements of the treatment program, including:

(1) The wastes that are capable of being treated at the unit based on a demonstration under § 264.272;

(2) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with § 264.273(a); and

(3) Unsaturated zone monitoring provisions meeting the requirements of § 264.278.

(b) The Director will specify in the facility permit the hazardous constituents that must be degraded, transformed, or immobilized under this Subsection. Hazardous constituents are constituents identified in Appendix VIII of § 261 of this rule that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(c) The Director will specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone must be:

(1) No more than 1.5 meters (5 feet) from the initial soil surface; and

(2) More than 1 meter (3 feet) above the seasonal high water table.

§ 264.272 Treatment demonstration

(a) For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(b) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under paragraph (a) of this section, he must obtain a treatment or disposal permit under § 270.63. The Director will specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and clean-up activities) necessary to meet the requirements in paragraph (c) of this section.

(c) Any field test or laboratory analysis conducted in order to make a demonstration under paragraph (a) of this section must:

(1) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

(i) The characteristics of the waste (including the presence of Appendix VIII of § 261 of this rule constituents);

- (ii) The climate in the area;
 - (iii) The topography of the surrounding area;
 - (iv) The characteristics of the soil in the treatment zone (including depth); and
 - (v) The operating practices to be used at the unit.
- (2) Be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and
- (3) Be conducted in a manner that protects human health and the environment considering:
- (i) The characteristics of the waste to be tested;
 - (ii) The operating and monitoring measures taken during the course of the test;
 - (iii) The duration of the test;
 - (iv) The volume of waste used in the test;
 - (v) In the case of field tests, the potential for migration of hazardous constituents to ground water or surface water.

§ 264.273 Design and operating requirements

The Director will specify in the facility permit how the owner or operator will design, construct, operate, and maintain the land treatment unit in compliance with this section.

(a) The owner or operator must design, construct, operate, and maintain the unit to maximize the degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator must design, construct, operate, and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under § 264.272. At a minimum, the Director will specify the following in the facility permit:

- (1) The rate and method of waste application to the treatment zone;
 - (2) Measures to control soil pH;
 - (3) Measures to enhance microbial or chemical reactions (e.g., fertilization, tilling); and
 - (4) Measures to control the moisture content of the treatment zone.
- (b) The owner or operator must design, construct, operate, and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.
- (c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm.
- (d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.
- (e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.
- (f) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.
- (g) The owner or operator must inspect the unit weekly and after storms to detect evidence of:
- (1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems; and
 - (2) Improper functioning of wind dispersal control measures.

§§ 264.274 — 264.275 [Reserved]

§ 264.276 Food-chain crops

The Director may allow the growth of food-chain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this section. The Director will specify in the facility permit the specific food-chain crops which may be grown.

(a)(1) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:

(i) Will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals (e.g., by grazing); or

(ii) Will not occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(2) The owner or operator must make the demonstration required under this paragraph prior to the planting of crops at the facility for all constituents identified in Appendix VIII of § 261 of this rule that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(3) In making a demonstration under this paragraph, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and must:

(i) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (e.g., pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

(ii) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(4) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under this paragraph, he must obtain a permit for conducting such activities.

(b) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

(1)(i) The pH of the waste and soil mixture must be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste must not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food-chain crops, the annual cadmium application rate must not exceed:

| Time period | Annual Cd application rate (kilograms per hectare) |
|--------------------|---|
|--------------------|---|

| | |
|--------------------------|-----|
| Present to June 30, 1984 | 2.0 |
|--------------------------|-----|

| | |
|-------------------------------|------|
| July 1, 1984 to Dec. 31, 1986 | 1.25 |
|-------------------------------|------|

| | |
|---------------------------|-----|
| Beginning January 1, 1987 | 0.5 |
|---------------------------|-----|

(iii) The cumulative application of cadmium from waste must not exceed 5 kg/ha if the waste and soil mixture has a pH of less than 6.5; and

- (iv) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste must not exceed: 5 kg/ha if soil cation exchange capacity (CEC) is less than 5 meq/100g; 10 kg/ha if soil CEC is 5-15 meq/100g; and 20 kg/ha if soil CEC is greater than 15 meq/100g; or
- (2)(i) Animal feed must be the only food-chain crop produced;
- (ii) The pH of the waste and soil mixture must be 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level must be maintained whenever food-chain crops are grown;
- (iii) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses; and
- (iv) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food-chain crops must not be grown except in compliance with paragraph (b)(2) of this section.

§ 264.277 [Reserved]

§ 264.278 Unsaturated zone monitoring

An owner or operator subject to this Subsection must establish an unsaturated zone monitoring program to discharge the following responsibilities:

- (a) The owner or operator must monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.
 - (1) The Director will specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under § 264.271(b).
 - (2) The Director may require monitoring for principal hazardous constituents (PHCs) in lieu of the constituents specified under § 264.271(b). PHCs are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The Director will establish PHCs if he finds, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation, or immobilization of the PHCs will assure treatment at least equivalent levels for the other hazardous constituents in the wastes.
- (b) The owner or operator must install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system must consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:
 - (1) Represent the quality of background soil-pore liquid quality and the chemical make-up of soil that has not been affected by leakage from the treatment zone; and
 - (2) Indicate the quality of soil-pore liquid and the chemical make-up of the soil below the treatment zone.
- (c) The owner or operator must establish a background value for each hazardous constituent to be monitored under paragraph (a) of this section. The permit will specify the background values for each constituent or specify the procedures to be used to calculate the background values.

(1) Background soil values may be based on a one-time sampling at a background plot having characteristics similar to those of the treatment zone.

(2) Background soil-pore liquid values must be based on at least quarterly sampling for one year at a background plot having characteristics similar to those of the treatment zone.

(3) The owner or operator must express all background values in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(4) In taking samples used in the determination of all background values, the owner or operator must use an unsaturated zone monitoring system that complies with paragraph (b)(1) of this section.

(d) The owner or operator must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The Director will specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator must express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(e) The owner or operator must use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator must implement procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures; and
- (4) Chain of custody control.

(f) The owner or operator must determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under paragraph (a) of this section below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under paragraph (d) of this section.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent, as determined under paragraph (d) of this section, to the background value for that constituent according to the statistical procedure specified in the facility permit under this paragraph.

(2) The owner or operator must determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The Director will specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(3) The owner or operator must determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The Director will specify a statistical procedure in the facility permit that he finds:

- (i) Is appropriate for the distribution of the data used to establish background values; and
- (ii) Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(g) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he must:

(1) Notify the Director of this finding in writing within seven days. The notification must indicate what constituents have shown statistically significant increases.

(2) Within 90 days, submit to the Director an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(h) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(2) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(2) of this section unless the demonstration made under this paragraph successfully shows that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Director in writing within seven days of determining a statistically significant increase below the treatment zone that he intends to make a determination under this paragraph;

(2) Within 90 days, submit a report to the Director demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Director an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(4) Continue to monitor in accordance with the unsaturated zone monitoring program established under this section.

§ 264.279 Recordkeeping

The owner or operator must include hazardous waste application dates and rates in the operating record required under § 264.73.

§ 264.280 Closure and post-closure care

(a) During the closure period the owner or operator must:

(1) Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under § 264.273(a), except to the extent such measures are inconsistent with paragraph (a)(8) of this section.

(2) Continue all operations in the treatment zone to minimize run-off of hazardous constituents as required under § 264.273(b);

(3) Maintain the run-on control system required under § 264.273(c);

(4) Maintain the run-off management system required under § 264.273(d);

(5) Control wind dispersal of hazardous waste if required under § 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under § 264.276;

(7) Continue unsaturated zone monitoring in compliance with § 264.278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone; and

(8) Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

(b) For the purpose of complying with § 264.115, when closure is completed the owner or operator may submit to the Director certification by an independent qualified soil scientist, in lieu of an independent Arkansas-registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(c) During the post-closure care period the owner or operator must:

(1) Continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other post-closure care activities;

(2) Maintain a vegetative cover over closed portions of the facility;

(3) Maintain the run-on control system required under § 264.273(c);

(4) Maintain the run-off management system required under § 264.273(d);

(5) Control wind dispersal of hazardous waste if required under § 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under § 264.276; and

(7) Continue unsaturated zone monitoring in compliance with § 264.278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone.

(d) The owner or operator is not subject to regulation under paragraphs (a)(8) and (c) of this section if the Director finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in paragraph (d)(3) of this section. The owner or operator may submit such a demonstration to the Director at any time during the closure or post-closure care periods. For the purposes of this paragraph:

(1) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under § 264.271 (b).

(i) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone.

(ii) The owner or operator must express background values and values for hazardous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under paragraph (d)(3) of this section.

(2) In taking samples used in the determination of background and treatment zone values, the owner or operator must take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(3) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent in the treatment zone to the background

value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator must use a statistical procedure that:

- (i) Is appropriate for the distribution of the data used to establish background values; and
- (ii) Provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(e) The owner or operator is not subject to regulation under Subsection F of this rule if the Director finds that the owner or operator satisfies paragraph (d) of this section and if unsaturated zone monitoring under § 264.278 indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

§ 264.281 Special requirements for ignitable or reactive waste

The owner or operator must not apply ignitable or reactive waste to the treatment zone unless the waste and the treatment zone meet all applicable requirements of § 268 and 40 CFR Part 268, and:

- (a) The waste is immediately incorporated into the soil so that:
 - (1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this rule; and
 - (2) Section 264.17(b) is complied with; or
- (b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

§ 264.282 Special requirements for incompatible wastes

The owner or operator must not place incompatible wastes, or incompatible wastes and materials (see Appendix V of this section for examples), in or on the same treatment zone, unless § 264.17(b) is complied with.

§ 264.283 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 must not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a management plan for these wastes that is approved by the Director pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

- (1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;
- (2) The attenuative properties of underlying and surrounding soils or other materials;
- (3) The mobilizing properties of other materials co-disposed with these wastes; and
- (4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Director may determine that additional design, operating, and monitoring requirements are necessary for land treatment facilities managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Subsection N -- Landfills

§ 264.300 Applicability

The rules in this Subsection apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 264.1 provides otherwise.

§ 264.301 Design and operating requirements

(a) Any landfill that is not covered by paragraph (c) of this section or § 265.301(a) of this rule must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at anytime during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Director will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Director finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Director will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners. "Construction commences" is as defined in § 260.10 of this rule under "existing facility".

(1)(i) The liner system must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

(ii) The liners must comply with paragraphs (a)(1) (i), (ii), and (iii) of this section.

(2) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The Director will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (c)(3) (iii) and (iv) of this section.

(3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more;

(iii) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill;

- (iv) Designed and operated to minimize clogging during the active life and post-closure care period; and
 - (v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.
- (4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.
- (5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.
- (d) The Director may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Director that such design and operating practices, together with location characteristics:
- (1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and
 - (2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.
- (e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Director for any monofill, if:
- (1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in § 261.24 of this rule, with EPA Hazardous Waste Numbers D004 through D017; and
 - (2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;
 - (B) The monofill is located more than one-quarter mile from an “underground source of drinking water” (as that term is defined in APC&EC Reg. 23 § 270.2); and
 - (C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA 3005(c); or
 - (ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.
- (f) The owner or operator of any replacement landfill unit is exempt from paragraph (c) of this section if:
- (1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the federal Resource Conservation and Recovery Act; and
 - (2) There is no reason to believe that the liner is not functioning as designed.
- (g) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.
- (h) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(i) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(j) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(k) The Director will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(l) [Reserved]

§ 264.302 Action leakage rate

(a) The Director shall approve an action leakage rate for landfill units subject to § 264.301(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 264.303(c) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under § 264.303(c).

§ 264.303 Monitoring and inspection

(a) During construction or installation, liners (except in the case of existing portions of landfills exempt from § 264.301(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(c)(1) An owner or operator required to have a leak detection system under § 264.301(c) or (d) must record the amount of liquids removed from each leak detection system sump at least once

each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the Director based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

§ 264.304 Response actions

(a) The owner or operator of landfill units subject to § 264.301(c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

- (1) Notify the Director in writing of the exceedance within 7 days of the determination;
- (2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;
- (3) Determine to the extent practicable the location, size, and cause of any leak;
- (4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;
- (5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and
- (6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

- (1)(i) Assess the source of liquids and amounts of liquids by source,
- (ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and
- (iii) Assess the seriousness of any leaks in terms of potential for escaping into the

- environment; or
- (2) Document why such assessments are not needed.

§§ 264.305 — 264.308 [Reserved]

§ 264.309 Surveying and recordkeeping

The owner or operator of a landfill must maintain the following items in the operating record required under § 264.73:

- (a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and
- (b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

§ 264.310 Closure and post-closure care

- (a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:
 - (1) Provide long-term minimization of migration of liquids through the closed landfill;
 - (2) Function with minimum maintenance;
 - (3) Promote drainage and minimize erosion or abrasion of the cover;
 - (4) Accommodate settling and subsidence so that the cover's integrity is maintained; and
 - (5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.
- (b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§ 264.117 through 264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under § 264.117). The owner or operator must:
 - (1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;
 - (2) Continue to operate the leachate collection and removal system until leachate is no longer detected;
 - (3) Maintain and monitor the leak detection system in accordance with §§ 264.301(c)(3)(iv) and (4) and 264.303(c), and comply with all other applicable leak detection system requirements of this part;
 - (4) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Subsection F of this section;
 - (5) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and
 - (6) Protect and maintain surveyed benchmarks used in complying with § 264.309.

§ 264.311 [Reserved]

§ 264.312 Special requirements for ignitable or reactive waste

(a) Except as provided in paragraph (b) of this section, and in § 264.316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meet all applicable requirements of § 268 and 40 CFR Part 268, and:

- (1) The resulting waste, mixture, or dissolution of material no longer meets the definition of

ignitable or reactive waste under § 261.21 or § 261.23 of this rule; and

(2) Section 264.17(b) is complied with.

(b) [Reserved]

§ 264.313 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this section for examples) must not be placed in the same landfill cell, unless § 264.17(b) is complied with.

§ 264.314 Special requirements for bulk and containerized liquids

(a) The placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(b) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095B (Paint Filter Liquids Test) as described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(c) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid:

(i) has been removed by decanting, or other methods;

(ii) has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or

(iii) has been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in § 264.316 and is disposed of in accordance with § 264.316.

(d) Sorbents used to treat liquids to be disposed of in landfills must be nonbiodegradable.

Nonbiodegradable sorbents are materials listed or described in paragraph (e)(1) of this Subsection; or materials that are determined by the Division to be nonbiodegradable through the Section 260 petition process.

(1) Nonbiodegradable sorbents (i) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller’s earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites, calcium carbonate (organic-free limestone), oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth, perlite (volcanic glass), expanded volcanic rock, volcanic ash, cement kiln dust, fly ash, rice hull ash, activated charcoal/activated carbon), or

(ii) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological materials or polymers specifically designed to be degradable; or

(iii) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents. (i) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70(1984a) - Standard Practice for Determining Resistance of Synthetic Polymer Material to Fungi; or

- (ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 (1984b)-Standard Practice for Determining Resistance of Plastics to Bacteria; or
- (iii) The sorbent material is determined to be non-biodegradable under OECD test 301B: [CO₂ Evolution (Modified Sturm Test)].

(e) The placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Director, or the Director determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in § 270.2 of this rule.)

§ 264.315 Special requirements for containers

Unless they are very small, such as an ampule, containers must be either:

- (a) At least 90 percent full when placed in the landfill; or
- (b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

§ 264.316 Disposal of small containers of hazardous wastes in overpacked drums ("lab packs")

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178, and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with 264.314(e), to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

(c) The sorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with § 264.17(b).

(d) Incompatible wastes, as defined in § 260.10 of this rule, must not be placed in the same outside container.

(e) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in § 261.23(a)(5) of this rule, must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive.

(f) Such disposal is in compliance with the requirements of Section 268 of this rule. Persons who incinerate lab packs according to the requirements in § 268.42(c)(1) may use fiber drums in place of metal outer containers. Such fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section.

§ 264.317 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 must not be placed in a landfill unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the Director pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

- (1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;
- (2) The attenuative properties of underlying and surrounding soils or other materials;
- (3) The mobilizing properties of other materials co-disposed with these wastes; and
- (4) The effectiveness of additional treatment, design, or monitoring requirements.

(b) The Director may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Subsection O – Incinerators

§ 264.340 Applicability

(a) The rules of this Subsection apply to owners and operators of hazardous waste incinerators (as defined in § 260.10 of this rule), except as § 264.1 provides otherwise.

(b) Integration of the MACT standards.

(1) Except as provided by paragraphs (b)(2) through (b)(4) of this subsection, the standards of this section do not apply to a new hazardous waste incineration unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR Part 63, Subpart EEE, by conducting a comprehensive performance test and submitting to the Administrator a Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR Part 63, subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, RCRA permit conditions that were based on the standards of this part will continue to be in effect until they are removed from the permit or the permit is terminated or revoked, unless the permit expressly provides otherwise.

(2) The MACT standards do not replace the closure requirements of § 264.351 of this rule, or the applicable requirements of subsections A through H, BB and CC of this section.

(3) The particulate matter standard of § 264.343(c) remains in effect for incinerators that elect to comply with the alternative to the particulate matter standard of 40 CFR Parts 63.1206(b)(14) and 63.1219(e).

(4) The following requirements remain in effect for startup, shutdown, and malfunction events if you elect to comply with § 270.235(a)(1)(i) of this rule to minimize emissions of toxic compounds from these events:

- (i) Section 264.345(a) requiring that an incinerator operate in accordance with operating requirements specified in the permit; and
- (ii) Section 264.345(c) requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes.

(c) After consideration of the waste analysis included with Part B of the permit application, the Director, in establishing the permit conditions, must exempt the applicant from all requirements of this Subsection except § 264.341 (Waste analysis) and § 264.351 (Closure),

(1) If the Director finds that the waste to be burned is:

- (i) Listed as a hazardous waste in Section 261, Subsection D, of this rule solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or
- (ii) Listed as a hazardous waste in Section 261, Subsection D, of this rule solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or
- (iii) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under Section 261, Subsection C, of this rule; or
- (iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), and (8) of this rule, and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in Section 261, Appendix VIII, of this rule, which would reasonably be expected to be in the waste.

(d) If the waste to be burned is one which is described by paragraphs (b)(1)(i), (ii), (iii), or (iv) of this section and contains insignificant concentrations of the hazardous constituents listed in Section 261, Appendix VIII, of this rule, then the Director may, in establishing permit conditions, exempt the applicant from all requirements of this Subsection, except § 264.341 (Waste analysis) and § 264.351 (Closure), after consideration of the waste analysis included with Part B of the permit application, unless the Director finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(e) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of § 270.62 of this rule (Short term and incinerator permits).

§ 264.341 Waste analysis

(a) As a portion of the trial burn plan required by § 270.62 of this rule, or with Part B of the permit application, the owner or operator must have included an analysis of the waste feed sufficient to provide all information required by § 270.62(b) or § 270.19 of this rule. Owners or operators of new hazardous waste incinerators must provide the information required by § 270.62(c) or § 270.19 of this rule to the greatest extent possible.

(b) Throughout normal operation the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit (under § 264.345(b)).

§ 264.342 Principal organic hazardous constituents (POHCs)

(a) Principal Organic Hazardous Constituents (POHCs) in the waste feed must be treated to the extent required by the performance standard of § 264.343.

(b)(1) One or more POHCs will be specified in the facility's permit, from among those constituents listed in Section 261, Appendix VIII of this rule, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(2) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in § 270.62 of this rule for obtaining trial burn permits.

§ 264.343 Performance standards

An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under § 264.345, it will meet the following performance standards:

(a)(1) Except as provided in paragraph (a)(2) of this section, an incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under § 264.342) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$\text{DRE} = \frac{W_{\text{in}} - W_{\text{out}}}{W_{\text{in}}} \times 100\%$$

where:

W_{in} = mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator, and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) An incinerator burning hazardous wastes F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under § 264.342) in its permit. This performance must be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in § 264.343(a)(1).

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{\text{-----}}$$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in part 60, Appendix A (Method 3), of this section. This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Director will select an appropriate correction procedure, to be specified in the facility permit.

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 264.345) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this section may be “information” justifying modification, revocation, or reissuance of a permit under § 270.41 of this rule.

§ 264.344 Hazardous waste incinerator permits

(a) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under § 264.345, except:

- (1) In approved trial burns under § 270.62 of this rule; or
- (2) Under exemptions created by § 264.340.

(b) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with Part B of a permit application under § 270.19 of this rule.

(c) The permit for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of this Subsection, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of § 264.345, sufficient to comply with the following standards:

(1) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in paragraph (c)(2) of this section, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Director’s engineering judgment. The Director may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(2) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of § 264.343 and must be in accordance with the approved trial burn plan;

(3) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Director, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Director’s engineering judgement.

(4) For the remaining duration of the permit, the operating requirements must be those

demonstrated, in a trial burn or by alternative data specified in § 270.19(c) of this rule, as sufficient to ensure compliance with the performance standards of § 264.343.

§ 264.345 Operating requirements

(a) An incinerator must be operated in accordance with operating requirements specified in the permit. These will be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in § 264.344(b) and included with Part B of a facility's permit application) to be sufficient to comply with the performance standards of § 264.343.

(b) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of § 264.343) to which the operating requirements apply. For each such waste feed, the permit will specify acceptable operating limits including the following conditions:

- (1) Carbon monoxide (CO) level in the stack exhaust gas;
- (2) Waste feed rate;
- (3) Combustion temperature;
- (4) An appropriate indicator of combustion gas velocity;
- (5) Allowable variations in incinerator system design or operating procedures; and
- (6) Such other operating requirements as are necessary to ensure that the performance standards of § 264.343 are met.

(c) During start-up and shut-down of an incinerator, hazardous waste (except wastes exempted in accordance with § 264.340) must not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit.

(d) Fugitive emissions from the combustion zone must be controlled by:

- (1) Keeping the combustion zone totally sealed against fugitive emissions; or
- (2) Maintaining a combustion zone pressure lower than atmospheric pressure; or
- (3) An alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(e) An incinerator must be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under paragraph (a) of this section.

(f) An incinerator must cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit.

§ 264.346 [Reserved]

§ 264.347 Monitoring and inspections

(a) The owner or operator must conduct, as a minimum, the following monitoring while incinerating hazardous waste:

- (1) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit must be monitored on a continuous basis.
- (2) CO must be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(3) Upon request by the Director, sampling and analysis of the waste and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the performance standards of § 264.343.

(b) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Director that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) This monitoring and inspection data must be recorded and the records must be placed in the operating log required by § 264.73 and maintained in the operating record for five years.

§§ 264.348 -- 264.350 [Reserved]

§ 264.351 Closure

At closure the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(d) of this rule, that the residue removed from the incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of sections 262 through 266 of this rule.]

Subsections P-R [Reserved]

Subsection S -- Special Provisions for Cleanup

§ 264.550 Applicability of Corrective Action Management Unit (CAMU) Rules

(a) Except as provided in paragraph (b) of this section, CAMUs are subject to the requirements of § 264.552.

(b) CAMUs that were approved before April 22, 2002, or for which substantially complete applications (or equivalents) were submitted to the Division or EPA on or before November 20, 2000, are subject to the requirements in § 264.551 for grandfathered CAMUs; CAMU waste, activities, and design will not be subject to the standards in § 264.552, so long as the waste, activities, and design remain within the general scope of the CAMU as approved.

§ 264.551 Grandfathered Corrective Action Management Units

(a) To implement remedies under § 264.101 of this rule, or the Arkansas Remedial Trust Fund Act (A.C.A. § 8-7-501 et seq.), or to implement remedies at a permitted facility that is not subject to § 264.101, the Director may designate an area at the facility as a corrective action management unit under the requirements in this subsection. Corrective action management unit means an area within a facility that is used only for managing remediation wastes for implementing corrective action or cleanup at the facility. A CAMU must be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the CAMU originated. One or more CAMUs may be designated at a facility.

- (1) Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes.
- (2) Consolidation or placement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.
- (b) (1) The Director may designate a regulated unit (as defined in § 264.90(a)(2)) as a CAMU, or may incorporate a regulated unit into a CAMU, if:
 - (i) The regulated unit is closed or is closing, meaning it has begun the closure process under § 264.113 or 265.113; and
 - (ii) Inclusion of the regulated unit will enhance implementation of effective, protective, and reliable remedial actions for the facility.
- (2) The Subsection F, G, and H requirements and the unit-specific requirements of Sections 264 or 265 of this rule that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.
- (c) The Director shall designate a CAMU in accordance with the following:
 - (1) The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies;
 - (2) Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents;
 - (3) The CAMU itself shall include uncontaminated areas of the facility only if including such areas for the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility;
 - (4) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases to the extent practicable;
 - (5) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable;
 - (6) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU; and
 - (7) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.
- (d) The owner/operator shall provide sufficient information to enable the Director to designate a CAMU in accordance with the criteria in § 264.552.
- (e) The Director shall specify, in the permit or order, requirements for CAMUs to include the following:
 - (1) The areal configuration of the CAMU.
 - (2) Requirements for remediation waste management to include the specification of applicable design, operation, and closure requirements.
 - (3) Requirements for groundwater monitoring that are sufficient to:
 - (i) Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the CAMU; and
 - (ii) Detect and subsequently characterize releases of hazardous constituents to groundwater that may occur from areas of the CAMU in which wastes will remain in

place after closure of the CAMU.

(4) Closure and post-closure requirements.

(i) Closure of corrective action management units shall:

(A) Minimize the need for further maintenance; and

(B) Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere.

(ii) Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the Director for a given CAMU:

(A) Requirements for excavation, removal, treatment, or containment of wastes;

(B) For areas in which wastes will remain after closure of the CAMU, requirements for capping of such areas; and

(C) Requirements for removal and decontamination of equipment, devices, and structures used in remediation waste management activities within the CAMU.

(iii) In establishing specific closure requirements for CAMUs under 264.552(e), the Director shall consider the following factors:

(A) CAMU characteristics;

(B) Volume of wastes which remain in place after closure,

(C) Potential for releases from the CAMU;

(D) Physical and chemical characteristics of the waste;

(E) Hydrological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and

(F) Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.

(iv) Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(f) The Director shall document the rationale for designating CAMUs and shall make such documentation available to the public.

(g) Incorporation of a CAMU into an existing permit must be approved by the Director according to the Division-initiated permit modifications under § 270.41, or according to the permit modification procedures of § 270.42.

(h) The designation of a CAMU does not change the Division's or EPA's existing authority to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility, or other remedy selection decisions.

§ 264.552 Corrective Action Management Units (CAMU)

(a) To implement remedies under § 264.101 or the Arkansas Remedial Trust Fund Act (A.C.A. § 8-7-501 *et seq.*), or to implement remedies at a permitted facility that is not subject to § 264.101, the Director may designate an area at the facility as a corrective action management unit under the requirements in this section. Corrective action management unit means an area within a facility that is used only for managing CAMU-eligible wastes for implementing corrective action or cleanup at the facility. A CAMU must be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the CAMU originated. One or more

CAMUs may be designated at a facility.

(1) CAMU-eligible waste means :

(i) All solid and hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, that are managed for implementing cleanup. As-generated wastes (either hazardous or nonhazardous) from ongoing industrial operations at a site are not CAMU-eligible wastes.

(ii) Wastes that would otherwise meet the description in paragraph (a)(1)(i) of this section are not “CAMU-eligible Wastes” where:

(A) The wastes are hazardous wastes found during cleanup in intact or substantially intact containers, tanks, or other non-land-based units found above ground, unless the wastes are first placed in the tanks, containers or nonland-based units as part of cleanup, or containers or tanks are excavated during the course of cleanup; or

(B) The Director exercises the discretion in paragraph 2) of this section to prohibit the wastes from management in a CAMU.

(iii) Notwithstanding paragraph (a)(1)(i) of this section, where appropriate, as-generated nonhazardous waste may be placed in a CAMU where such waste is being used facilitate treatment or the performance of the CAMU.

(2) The Director may prohibit, where appropriate, the placement of waste in a CAMU where the Director has or receives information that such wastes have not been managed in compliance with applicable land disposal treatment standards of Section 268 of this rule, or applicable unit design requirements of this section, or applicable unit design requirements of Section 265 of this rule, that non-compliance with other applicable requirements of this rule likely contributed to the release of the waste.

(3) Prohibition against placing liquids in CAMUs.

(i) The placement of bulk or noncontainerized liquid hazardous waste or free liquids contained in hazardous waste (whether or not sorbents have been added) in any CAMU is prohibited except where placement of such wastes facilitates the remedy selected for the waste.

(ii) The requirements in § 264.314(c) for placement of containers holding free liquids in landfills apply to placement of a CAMU except where placement facilitates the remedy selected for the waste.

(iii) The placement of any liquid which is not a hazardous waste in a CAMU is prohibited unless such placement facilitates the remedy selected for the waste or a demonstration is made pursuant to § 264.314(e).

(iv) The absence or presence of free liquids in either a containerized or a bulk waste must be determined in accordance with § 264.314(b). Sorbents used to treat free liquids in CAMUs must meet the requirements of § 264.314(d).

(4) Placement of CAMU-eligible wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(5) Consolidation or placement of CAMU-eligible wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.

(b)(1) The Director may designate a regulated unit (as defined in § 264.90(a)(2)) as a CAMU, or may incorporate a regulated unit into a CAMU, if:

(i) The regulated unit is closed or closing, meaning it has begun the closure process under § 264.113 or § 265.113 of this rule; and

(ii) Inclusion of the regulated unit will enhance implementation of effective,

protective and reliable remedial actions for the facility.

(2) The subsection F, G, and H requirements and the unit-specific requirements of this Section 264 or Section 265 of this rule that applied to the regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.

(c) The Director shall designate a CAMU that will be used for storage and/or treatment only in accordance with paragraph (f) of this section. The Director shall designate all other CAMUs in accordance with the following:

(1) The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies;

(2) Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents;

(3) The CAMU shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing CAMU-eligible waste is more protective than management of such wastes at contaminated areas of the facility;

(4) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable;

(5) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable;

(6) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU; and

(7) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

(d) The owner/operator shall provide sufficient information to enable the Director to designate a CAMU in accordance with the criteria in this section. This must include, unless not reasonably available, information on:

(1) The origin of the waste and how it was subsequently managed (including a description of the timing and circumstances surrounding the disposal and/or release);

(2) Whether the waste was listed or identified as hazardous at the time of disposal and/or release; and

(3) Whether the disposal and/or release of the waste occurred before or after the land disposal requirements of Section 268 of this rule were in effect for the waste listing or characteristic.

(e) The Director shall specify, in the permit or order, requirements for CAMUs to include the following:

(1) The areal configuration of the CAMU.

(2) Except as provided in paragraph (g) of this section, requirements for CAMU-eligible waste management to include the specification of applicable design, operation, treatment and closure requirements.

(3) Minimum design requirements. CAMUs, except as provided in paragraph (f) of this section, into which wastes are placed must be designed in accordance with the following:

(i) Unless the Director approves alternate requirements under paragraph (e)(3)(ii) of this section, CAMUs that consist of new, replacement, or laterally expanded units must

include a composite liner and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner. For purposes of this section, *composite liner* means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components consisting of high density polyethylene (HDPE) must be at least 60 mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component;

(ii) Alternate requirements. The Director may approve alternate requirements if:

(A) The Director finds that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as the liner and leachate collection systems in paragraph (e)(3)(i) of this section; or

(B) The CAMU is to be established in an area with existing significant levels of contamination, and the Director finds that an alternative design, including a design that does not include a liner, would prevent migration from the unit that would exceed long-term remedial goals.

(4) Minimum treatment requirements: Unless the wastes will be placed in a CAMU for storage and/or treatment only in accordance with paragraph (f) of this section, CAMU-eligible wastes that, absent this section, would be subject to the treatment requirements of Section 268 of this rule, and that the Director determines contain principal hazardous constituents must be treated to the standards specified in paragraph (e)(4)(iii) of this section.

(i) Principal hazardous constituents are those constituents that the Director determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

(A) In general, the Director will designate as principal hazardous constituents:

(1) Carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10^{-3} ; and

(2) Non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose.

(B) The Director will also designate constituents as principal hazardous constituents, where appropriate, when risks to human health and the environment posed by the potential migration of constituents in wastes to ground water are substantially higher than cleanup levels or goals at the site; when making such designation, the Director may consider such factors as constituent concentrations, and fate and transport characteristics under site conditions.

(C) The Director may also designate other constituents as principal hazardous constituents that the Director determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

(ii) In determining which constituents are “principal hazardous constituents,” the Director must consider all constituents which, absent this section, would be subject to the treatment requirements in Section 268 of this rule.

(iii) Waste that the Director determines contains principal hazardous constituents must meet treatment standards determined in accordance with paragraph (e)(4)(iv) or (e)(4)(v) of this section.

(iv) Treatment standards for wastes placed in CAMUs.

(A) For non-metals, treatment must achieve 90 percent reduction in total principal hazardous constituent concentrations, except as provided by paragraph (e)(4)(iv)(C) of this section.

(B) For metals, treatment must achieve 90 percent reduction in principal hazardous constituent concentrations as measured in leachate from the treated waste or media (tested according to the TCLP) or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by paragraph (e)(4)(iv)(C) of this section.

(C) When treatment of any principal hazardous constituent to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the Universal Treatment Standard not required. Universal Treatment Standards are identified in § 268.48 Table UTS of this rule.

(D) For waste exhibiting the hazardous characteristic of ignitability, corrosivity or reactivity, the waste must also be treated to eliminate these characteristics.

(E) For debris, the debris must be treated in accordance with § 268.45 of this rule, or by methods or to levels established under paragraphs (e)(4)(iv)(A) through (D) or paragraph (e)(4)(v) of this section, whichever the Director determines is appropriate.

(F) Alternatives to TCLP. For metal bearing wastes for which metals removal treatment is not used, the Director may specify a leaching test other than the TCLP (SW-846 Method 1311, § 260.11(c)(3)(v) of this rule) to measure treatment effectiveness, provided the Director determines that an alternative leach testing protocol is appropriate for use, and that the alternative more accurately reflects conditions at the site that affect leaching.

(v) Adjusted standards. The Director may adjust the treatment level or method in paragraph (e)(4)(iv) this section to a higher or lower level, based on one or more of the following factors, as appropriate. The adjusted level or method must be protective of human health and the environment:

(A) The technical impracticability of treatment to the levels or by the methods in paragraph (e)(4)(iv) of this section;

(B) The levels or methods in paragraph (e)(4)(iv) of this section would result in concentrations of principal hazardous constituents (PHCs) that are significantly above or below cleanup standards applicable to the site (established either site-specifically, or promulgated under state or federal law);

(C) The views of the affected local community on the treatment levels or methods in paragraph (e)(4)(iv) of this section as applied at the site, and, for treatment levels, the treatment methods necessary to achieve these levels;

(D) The short-term risks presented by the on-site treatment method necessary to achieve the levels or treatment methods in paragraph (e)(4)(iv) of this section;

(E) The long-term protection offered by the engineering design of the CAMU and related engineering controls:

(1) Where the treatment standards in paragraph (e)(4)(iv) of this section are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility; or

(2) Where cost-effective treatment has been used and the CAMU meets the

Subtitle C liner and leachate collection requirements for new land disposal units at § 264.301(c) and (d); or

(3) Where, after review of appropriate treatment technologies, the Director determines that cost-effective treatment is not reasonably available, and the CAMU meets the Subtitle C liner and leachate collection requirements for new land disposal units at § 264.301(c) and (d); or

(4) Where cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility; or

(5) Where, after review of appropriate treatment technologies, the Director determines that cost-effective treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility, and either the CAMU meets or exceeds the liner standards for new, replacement, or laterally expanded CAMUs in paragraphs (e)(3)(i) and (ii) of this section, or the CAMU provides substantially equivalent or greater protection.

(vi) The treatment required by the treatment standards must be completed prior to, or within a reasonable time after, placement in the CAMU.

(vii) For the purpose of determining whether wastes placed in CAMUs have met site-specific treatment standards, the Director may, as appropriate, specify a subset of the principal hazardous constituents in the waste as analytical surrogates for determining whether treatment standards have been met for other principal hazardous constituents. This specification will be based on the degree of difficulty of treatment and analysis of constituents with similar treatment properties.

(5) Except as provided in paragraph (f) of this section, requirements for ground water monitoring and corrective action that are sufficient to:

(i) Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the CAMU; and

(ii) Detect and subsequently characterize releases of hazardous constituents to ground water that may occur from areas of the CAMU in which wastes will remain in place after closure of the CAMU; and

(iii) Require notification to the Director and corrective action as necessary to protect human health and the environment for releases to ground water from the CAMU.

(6) Except as provided in paragraph (f) of this section, closure and post-closure requirements:

(i) Closure of corrective action management units shall:

(A) Minimize the need for further maintenance; and

(B) Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere.

(ii) Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the Director for a given CAMU:

(A) Requirements for excavation, removal, treatment or containment of wastes; and

(B) Requirements for removal and decontamination of equipment, devices, and structures used in CAMU-eligible waste management activities within the CAMU.

(iii) In establishing specific closure requirements for CAMUs under paragraph (e) of

this section, the Director shall consider the following factors:

- (A) CAMU characteristics;
- (B) Volume of wastes which remain in place after closure;
- (C) Potential for releases from the CAMU;
- (D) Physical and chemical characteristics of the waste;
- (E) Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and
- (F) Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.

(iv) Cap requirements:

(A) At final closure of the CAMU, for areas in which wastes will remain after closure of the CAMU, with constituent concentrations at or above remedial levels or goals applicable to the site, the owner or operator must cover the CAMU with a final cover designed and constructed to meet the following performance criteria, except as provided paragraph (e)(6)(iv)(B) of this section:

- (1) Provide long-term minimization of migration of liquids through the closed unit;
- (2) Function with minimum maintenance;
- (3) Promote drainage and minimize erosion or abrasion of the cover; (4) Accommodate settling and subsidence so that the cover's integrity maintained; and
- (5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(B) The Director may determine that modifications to paragraph (e)(6)(iv)(A) of this section are needed to facilitate treatment or the performance of the CAMU (e.g., to promote biodegradation).

(v) Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(f) CAMUs used for storage and/or treatment only are CAMUs in which wastes will not remain after closure. Such CAMUs must be designated in accordance with all of the requirements this section, except as follows.

(1) CAMUs that are used for storage and/or treatment only and that operate accordance with the time limits established in the staging pile rules at § 264.554(d)(1)(iii), (h), and (i) are subject to the requirements for staging piles at § 264.554(d)(1)(i) and ii), § 264.554(d)(2), § 264.554(e) and (f), and § 264.554(j) and (k) in lieu of the performance standards and requirements for CAMUs in this section at paragraphs (c) and (e)(3) through (6).

(2) CAMUs that are used for storage and/or treatment only and that do not operate in accordance with the time limits established in the staging pile rules at § 264.554(d)(1)(iii), (h), and (i):

(i) Must operate in accordance with a time limit, established by the Director, that is no longer than necessary to achieve a timely remedy selected for the waste, and

(ii) Are subject to the requirements for staging piles at § 264.554(d)(1)(i) and (ii), § 264.554(d)(2), § 264.554(e) and (f), and § 264.554(j) and (k) in lieu of the performance standards and requirements for CAMUs in this section at paragraphs (c) and (e)(4) and

(6). (g) CAMUs into which wastes are placed where all wastes have constituent levels at or below remedial levels or goals applicable to the site do not have to comply with the requirements for liners at paragraph (e)(3)(i) of this section, caps at paragraph (e)(6)(iv) of this section, ground water monitoring requirements at paragraph (e)(5) of this section or, for treatment and/or storage-only CAMUs, the design standards at paragraph (f) of this section.

(g) CAMUs into which wastes are placed where all wastes have constituent levels at or below remedial levels or goals applicable to the site do not have to comply with the requirements for liners at paragraph (e)(3)(i) of this section, caps at paragraph (e)(6)(iv) of this section, ground water monitoring requirements at paragraph (e)(5) of this section or, for treatment and/or storage-only CAMUs, the design standards at paragraph (f) of this section.

(h) The Director shall provide public notice and a reasonable opportunity for public comment before designating a CAMU. Such notice shall include the rationale for any proposed adjustments under paragraph (e)(4)(v) of this section to the treatment standards in paragraph (e)(4)(iv) of this section.

(i) Notwithstanding any other provision of this section, the Director may impose additional requirements as necessary to protect human health and the environment.

(j) Incorporation of a CAMU into an existing permit must be approved by the Director according to the procedures for Division -initiated permit modifications under § 270.41 of this rule, or according to the permit modification procedures of § 270.42 of this rule.

(k) The designation of a CAMU does not change DEQ's existing authority to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility, or other remedy selection decisions.

§ 264.553 Temporary Units

(a) For temporary tanks and container storage areas used to treat or store hazardous remediation wastes during remedial activities required under § 264.101 of this rule or the Arkansas Remedial Action Trust Fund Act (A.C.A. §§ 8-7-501 et seq.), or at a permitted facility that is not subject to § 264.101, the Director may designate a unit at the facility as a temporary unit. A temporary unit must be located within the contiguous property under the control of the owner/operator where the wastes to be managed in the temporary unit originated. For temporary units, the Director may replace the design, operating, or closure standard applicable to these units under this Section 264 or Section 265 of this rule with alternative requirements which protect human health and the environment.

(b) Any temporary unit to which alternative requirements are applied in accordance with paragraph (a) of this subsection shall be:

- (1) Located within the facility boundary; and
- (2) Used only for treatment or storage of remediation wastes.

(c) In establishing standards to be applied to a temporary unit, the Director shall consider the following factors:

- (1) Length of time such a unit will be in operation;
- (2) Type of unit;
- (3) Volumes of waste to be managed;
- (4) Physical and chemical characteristics of the wastes to be managed in the unit;
- (5) Potential for releases from the unit;

(6) Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential releases; and

(7) Potential for exposure of humans and environmental receptors if releases were to occur from the unit.

(d) The Director shall specify in the permit or order the length of time a temporary unit will be allowed to operate, to be no longer than a period of one year. The Director shall also specify the design, operating, and closure requirements for the unit.

(e) The Director may extend the operational period of a temporary unit once for no longer than a period of one year beyond that originally specified in the permit or consent order, if he determines that:

(1) Continued operation of the unit will not pose a threat to human health and the environment; and

(2) Continued operation of the unit is necessary to ensure timely and efficient remedial actions at the facility.

(f) Incorporation of a temporary unit or a time extension for a temporary unit into an existing permit shall be:

(1) Approved in accordance with the procedures for Division -initiated permit modifications under § 270.41; or

(2) Requested by the facility owner/operator as a Class II modification according to the procedures under § 270.42.

(g) The Director shall document the rationale for designating a temporary unit and for granting time extensions for temporary units and shall make such documentation available to the public.

§ 264.554 Staging piles

(This section is written in a special format to make it easier to understand the regulatory requirements. Like other Commission rules, this establishes enforceable legal requirements. For this section, “I” and “you” refer to the owner/operator.)

(a) What is a staging pile? A staging pile is an accumulation of solid, non-flowing remediation waste (as defined in § 260.10 of this rule) that is not a containment building and is used only during remedial operations for temporary storage at a facility. A staging pile must be located within the contiguous property under the control of the owner/operator where the wastes to be managed in the staging pile originated. Staging piles must be designated by the Director according to the requirements in this section.

(1) For the purposes of this section, storage includes mixing, sizing, blending, or other similar physical operations as long as they are intended to prepare the wastes for subsequent management or treatment.

(2) [Reserved]

(b) When may I use a staging pile? You may use a staging pile to store hazardous remediation waste (or remediation waste otherwise subject to land disposal restrictions) only if you follow the standards and design criteria the Director has designated for that staging pile. The Director must designate the staging pile in a permit or, at an interim status facility, in a closure plan or order (consistent with § 270.72(a)(5) and (b)(5) of this rule). The Director must establish conditions in the permit, closure plan, or order that comply with paragraphs (d) through (k) of this section.

(c) What information must I provide to get a staging pile designated? When seeking a staging pile designation, you must provide:

- (1) Sufficient and accurate information to enable the Director to impose standards and design criteria for your staging pile according to paragraphs (d) through (k) of this section;
 - (2) Certification by an independent, qualified, Arkansas-registered professional engineer for technical data, such as design drawings and specifications, and engineering studies, unless the Director determines, based on information that you provide, that this certification is not necessary to ensure that a staging pile will protect human health and the environment; and
 - (3) Any additional information the Director determines is necessary to protect human health and the environment.
- (d) What performance criteria must a staging pile satisfy? The Director must establish the standards and design criteria for the staging pile in the permit, closure plan, or order.
- (1) The standards and design criteria must comply with the following:
 - (i) The staging pile must facilitate a reliable, effective and protective remedy;
 - (ii) The staging pile must be designed so as to prevent or minimize releases of hazardous wastes and hazardous constituents into the environment, and minimize or adequately control cross-media transfer, as necessary to protect human health and the environment (for example, through the use of liners, covers, run-off/run-on controls, as appropriate); and
 - (iii) The staging pile must not operate for more than two years, except when the Director grants an operating term extension under paragraph (i) of this section (entitled “May I receive an operating extension for a staging pile?”). You must measure the two-year limit, or other operating term specified by the Director in the permit, closure plan, or order, from the first time you place remediation waste into a staging pile. You must maintain a record of the date when you first placed remediation waste into the staging pile for the life of the permit, closure plan, or order, or for three years, whichever is longer.
 - (2) In setting the standards and design criteria, the Director must consider the following factors:
 - (i) Length of time the pile will be in operation;
 - (ii) Volumes of wastes you intend to store in the pile;
 - (iii) Physical and chemical characteristics of the wastes to be stored in the unit;
 - (iv) Potential for releases from the unit;
 - (v) Hydrogeological and other relevant environmental conditions at the facility that may influence the migration of any potential releases; and
 - (vi) Potential for human and environmental exposure to potential releases from the unit;
- (e) May a staging pile receive ignitable or reactive remediation waste? You must not place ignitable or reactive remediation waste in a staging pile unless:
- (1) You have treated, rendered or mixed the remediation waste before you placed it in the staging pile so that:
 - (i) The remediation waste no longer meets the definition of ignitable or reactive under § 261.21 or § 261.23 of this rule; and
 - (ii) You have complied with § 264.17(b); or
 - (2) You manage the remediation waste to protect it from exposure to any material or condition that may cause it to ignite or react.
- (f) How do I handle incompatible remediation wastes in a staging pile? The term “incompatible waste” is defined in § 260.10 of this rule. You must comply with the following requirements for

incompatible wastes in staging piles:

(1) You must not place incompatible remediation wastes in the same staging pile unless you have complied with § 264.17(b);

(2) If remediation waste in a staging pile is incompatible with any waste or material stored nearby in containers, other piles, open tanks or land disposal units (for example, surface impoundments), you must separate the incompatible materials, or protect them from one another by using a dike, berm, wall or other device; and

(3) You must not pile remediation waste on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to comply with § 264.17(b).

(g) Are staging piles subject to Land Disposal Restrictions (LDR) and Minimum Technological Requirements (MTR)? No. Placing hazardous remediation wastes into a staging pile does not constitute land disposal of hazardous wastes or create a unit that is subject to the minimum technological requirements of RCRA 3004(o).

(h) How long may I operate a staging pile? The Director may allow a staging pile to operate for up to two years after hazardous remediation waste is first placed into the pile. You must use a staging pile no longer than the length of time designated by the Director in the permit, closure plan, or order (the “operating term”), except as provided in paragraph (i) of this section.

(i) May I receive an operating extension for a staging pile?

(1) The Director may grant one operating term extension of up to 180 days beyond the operating term limit contained in the permit, closure plan, or order (see paragraph (l) of this section for modification procedures). To justify to the Director the need for an extension, you must provide sufficient and accurate information to enable the Director to determine that continued operation of the staging pile:

(i) Will not pose a threat to human health and the environment; and

(ii) Is necessary to ensure timely and efficient implementation of remedial actions at the facility.

(2) The Director may, as a condition of the extension, specify further standards and design criteria in the permit, closure plan, or order, as necessary, to ensure protection of human health and the environment.

(j) What is the closure requirement for a staging pile located in a previously contaminated area?

(1) Within 180 days after the operating term of the staging pile expires, you must close a staging pile located in a previously contaminated area of the site by removing or decontaminating all:

(i) Remediation waste;

(ii) Contaminated containment system components; and

(iii) Structures and equipment contaminated with waste and leachate.

(2) You must also decontaminate contaminated subsoils in a manner and according to a schedule that the Director determines will protect human health and the environment.

(3) The Director must include the above requirements in the permit, closure plan, or order in which the staging pile is designated.

(k) What is the closure requirement for a staging pile located in an uncontaminated area?

(1) Within 180 days after the operating term of the staging pile expires, you must close a staging pile located in an uncontaminated area of the site according to §§ 264.258(a) and 264.111; or according to §§ 265.258(a) and 265.111 of this rule.

- (2) The Director must include the above requirement in the permit, closure plan, or order in which the staging pile is designated.
- (l) How may my existing permit (for example, RAP), closure plan, or order be modified to allow me to use a staging pile?
- (1) To modify a permit, other than a RAP, to incorporate a staging pile or staging pile operating term extension, either:
- (i) The Director must approve the modification under the procedures for EPA- or State-initiated permit modifications in § 270.41 of this rule; or
 - (ii) You must request a Class 2 modification under § 270.42 of this rule.
- (2) To modify a RAP to incorporate a staging pile or staging pile operating term extension, you must comply with the RAP modification requirements under §§ 270.170 and 270.175 of this rule.
- (3) To modify a closure plan to incorporate a staging pile or staging pile operating term extension, you must follow the applicable requirements under § 264.112(c) or § 265.112(c) of this rule.
- (4) To modify an order to incorporate a staging pile or staging pile operating term extension, you must follow the terms of the order and the applicable provisions of § 270.72(a)(5) or (b)(5) of this rule.
- (m) Is information about the staging pile available to the public? The Director must document the rationale for designating a staging pile or staging pile operating term extension and make this documentation available to the public.

§ 264.555 Disposal of CAMU-eligible wastes in permitted hazardous waste landfills

- (a) The Director may approve placement of CAMU-eligible wastes in hazardous waste landfills not located at the site from which the waste originated, without the wastes meeting the requirements of Section 268 of this rule, if the conditions in paragraphs (a)(1) through (3) of this section are met:
- (1) The waste meets the definition of CAMU-eligible waste in § 264.552(a)(1) and (2).
 - (2) The Director identifies principal hazardous constituents in such waste, in accordance with § 264.552(e)(4)(i) and (ii), and requires that such principal hazardous constituents are treated to any of the following standards specified for CAMU-eligible wastes:
 - (i) The treatment standards under 264.552(e)(4)(iv); or
 - (ii) Treatment standards adjusted in accordance with § 264.552(e)(4)(v)(A), (C), (D) or (E)(I); or
 - (iii) Treatment standards adjusted in accordance with § 264.552(e)(4)(v)(E)(2), where treatment has been used and that treatment significantly reduces the toxicity or mobility of the principal hazardous constituents in the waste, minimizing the short-term and long term threat posed by the waste, including the threat at the remediation site.
 - (3) The landfill receiving the CAMU-eligible waste must have a RCRA hazardous waste permit, meet the requirements for new landfills in Subsection N of this section, and be authorized to accept CAMU-eligible wastes; for the purposes of this requirement, “permit” does not include interim status.
- (b) The person seeking approval shall provide sufficient information to enable the Director with regulatory oversight at the location where the cleanup is taking place to approve placement of CAMU-eligible waste in accordance with paragraph (a) this section. Information required by §

264.552(d)(1) through (3) for CAMU applications must be provided, unless not reasonably available.

(c) The Director shall provide public notice and a reasonable opportunity for public comment before approving CAMU eligible waste for placement in an off-site permitted hazardous waste landfill, consistent with the requirements for CAMU approval at § 264.552(h). The approval must be specific to a single remediation.

(d) Applicable hazardous waste management requirements in this part, including recordkeeping requirements to demonstrate compliance with treatment standards approved under this section, for CAMU-eligible waste must be incorporated into the receiving facility permit through permit issuance or a permit modification, providing notice and an opportunity for comment and a hearing. Notwithstanding § 270.4(a) of this rule, a landfill may not receive hazardous CAMU-eligible waste under this section unless its permit specifically authorizes receipt of such waste.

(e) For each remediation, CAMU-eligible waste may not be placed in an off-site landfill authorized to receive CAMU-eligible waste in accordance with paragraph (d) of this section until the following additional conditions have been met:

(1) The landfill owner/operator notifies the Director and persons on the facility mailing list, maintained in accordance with 40 CFR 124.10(c)(1)(ix), of his or her intent to receive CAMU-eligible waste in accordance with this section; the notice must identify the source of the remediation waste, the principal hazardous constituents in the waste, and treatment requirements.

(2) Persons on the facility mailing list may provide comments, including objections to the receipt of the CAMU-eligible waste, to the Director within 15 days of notification.

(3) The Director may object to the placement of the CAMU-eligible waste in the landfill within 30 days of notification; the Director may extend the review period an additional 30 days because of public concerns or insufficient information.

(4) CAMU-eligible wastes may not be placed in the landfill until the Director has notified the facility owner/operator that he or she does not object to its placement.

(5) If the Director objects to the placement or does not notify the facility owner/operator that he or she has chosen not to object, the facility may not receive the waste, notwithstanding § 270.4(a), until the objection has been resolved, or the owner/operator obtains a permit modification in accordance with the procedures of § 270.42 specifically authorizing receipt of the waste.

(6) As part of the permit issuance or permit modification process of paragraph (d) of this section, the Director may modify, reduce, or eliminate the notification requirements of this paragraph as they apply to specific categories of CAMU-eligible waste, based on minimal risk.

(f) Generators of CAMU-eligible wastes sent off-site to a hazardous waste landfill under this section must comply with the requirements of § 268.7(a)(4); off-site facilities treating CAMU-eligible wastes to comply with this section must comply with the requirements of § 268.7(b)(4), except that the certification must be with respect to the treatment requirements of paragraph (a)(2) of this section.

(g) For the purposes of this section only, the “design of the CAMU” in § 264.552(e)(4)(v)(E) means design of the permitted Subtitle C landfill.

Subsections T-V [Reserved]

Subsection W -- Drip Pads

§ 264.570 Applicability

(a) The requirements of this Subsection apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water run-off to an associated collection system. Existing drip pads are those constructed before December 6, 1990 and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement at § 264.573(b)(3) to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992, except for those constructed after December 24, 1992 for which the owner or operator has a final design and has entered into binding financial or other agreements for construction prior to December 24, 1992.

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to rule under § 264.573(e) or § 264.573(f), as appropriate.

(c) The requirements of this subsection are not applicable to the management of infrequent and incidental drippage in storage yards provided that:

(1) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the owner or operator will do the following:

- (i) Clean up the drippage;
- (ii) Document the cleanup of the drippage;
- (iii) Retain documents regarding the cleanup for three years;
- (iv) Manage the contaminated media in a manner consistent with this rule.

§ 264.571 Assessment of existing drip pad integrity

(a) For each existing drip pad as defined in § 264.570 of this Subsection, the owner or operator must evaluate the drip pad and determine that it meets all of the requirements of this Subsection, except the requirements for liners and leak detection systems of § 264.573(b). No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an *independent, qualified Arkansas-registered* professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and re-certified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of § 264.573 of this Subsection are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of § 264.573 except the standards for liners and leak detection systems, specified in § 264.573(b).

(b) *For immediate protection of the environment, all existing drip pads, regardless of age, must have an impermeable (as specified at § 264.573(a)(4)(i)) coating or cover in place no later than September 30, 1995.* In addition, the owner or operator must develop a written plan for the eventual upgrading, repairing, and modifying of the drip pad to meet the requirements of § 264.573(b) and submit the plan to the Director no later than 2 years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of § 264.573.

The plan must be reviewed and certified by an *independent qualified Arkansas-registered professional engineer*.

Note: A properly installed and maintained drip pad coating which is installed to meet the September 30, 1995 deadline should satisfy the eventual coating option of § 264.573(a)(4).

(c) Upon completion of all upgrades, repairs, and modifications, the owner or operator must submit to the Director the as-built drawings for the drip pad together with a certification by an *independent qualified Arkansas-registered professional engineer* attesting that the drip pad conforms to the drawings.

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of § 264.573 (m) of this Subsection or close the drip pad in accordance with § 264.575 of this Subsection.

§ 264.572 Design and installation of new drip pads

Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following:

(a) All of the applicable requirements of §§ 264.573 (except 264.573(a)(4)), 264.574 and 264.575 of this Subsection, or

(b) All of the applicable requirements of §§ 264.573 (except 264.573(b)), 264.574 and 264.575 of this Subsection.

§ 264.573 Design and operating requirements

(a) Drip pads must: (1) Be constructed of non-earthern materials, excluding wood and non-structurally supported asphalt:

(2) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;

(3) Have a curb or berm around the perimeter;

(4)(i) Have a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second, e.g., existing concrete drip pads must be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing all such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material must be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material must be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply to existing drip pads, and those drip pads for which the owner or operator elects to comply with § 264.572(b) instead of § 264.572(a). *Penetrating sealants are not adequate to meet this coating or cover requirement.*

(ii) The owner or operator must obtain and keep on file at the facility a written assessment (§ 264.571) of the drip pad, reviewed and certified by an *independent, qualified, Arkansas-registered professional engineer* that attests to the results of the evaluation. This assessment must be renewed, updated, and recertified annually. The evaluation must document the extent to which the drip pad meets the design and operating standards of this Subsection.

(5) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of daily operations, e.g., variable and moving loads

such as vehicle traffic, movement of wood, etc.

Note: The Division will generally consider applicable standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) or the American Society of Testing and Materials (ASTM) in judging the structural integrity requirement of this paragraph.

(b) If the owner or operator elects to comply with § 265.572(a) instead of § 264.572(b), the drip pad must have:

(1) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner and to prevent releases into the adjacent subsurface soil or groundwater or surface water during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(iii) Installed to cover all surrounding earth that could come in contact with the waste or leakage; and

(2) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad;

(ii) Designed and operated to function without clogging through the scheduled closure of the drip pad; and

(iii) Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(3) A leakage collection system immediately above the liner that is designed, constructed, maintained, and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed must be documented in the operating log.

(c) Drip pads must be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.

Note: See § 264.573(m) for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system must be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(e) Unless protected by a structure, as described in § 264.570(b) of this subsection, the owner or operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm,

unless the system has sufficient excess capacity to contain any run-off that might enter the system.

(f) Unless protected by a structure or cover as described in § 264.570(b) of this subsection, the owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(g) The drip pad must be evaluated to determine that it meets the requirements of paragraphs (a) through (f) of this section and the owner or operator must obtain a statement from an *independent, qualified Arkansas-registered professional engineer* certifying that the drip pad design meets the requirements of this section.

(h) Drillage and accumulated precipitation must be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface must be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous wastes or other materials on the drip pad. The owner or operator must document the date and time of each cleaning and the cleaning and the cleaning procedure used in the facility's operating log. The owner/operator must determine if the residues are hazardous as per § 262.11 of this rule and, if so, must manage them under Sections 261-279 of this rule and the Arkansas Hazardous Waste Management Act.

(j) Drip pads must be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and non-pressure processes must be held on the drip pad until drillage has ceased. The owner or operator must maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with run-on and run-off control systems must be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad and as specified in the permit, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time following discovery, in accordance with the following procedures:

(1) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage in the leak detection system), the owner or operator must:

- (i) Enter a record of the discovery in the facility operating log;
- (ii) Immediately remove the portion of the drip pad affected by the condition from service;
- (iii) Determine what steps must be taken to repair the drip pad and clean up any leakage from below the drip pad, and establish a schedule for accomplishing the repairs;
- (iv) Within 24 hours after discovery of the condition, notify the Director of the condition and, within 10 working days, provide written notice to the Director with a description of the steps that will be taken to repair the drip pad and clean up any leakage, and the schedule for accomplishing this work.

(2) The Director will review the information submitted, make a determination regarding

whether the pad must be removed from service completely or partially until repairs and cleanup are complete and notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing all repairs and cleanup, the owner or operator must notify the Director in writing and provide a certification signed by an *independent, qualified Arkansas-registered professional engineer*, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (m)(1)(iv) of this section.

(n) Should a permit be necessary, the Director will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(o) The owner or operator must maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This must include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

§ 264.574 Inspections

(a) During construction or installation, liners and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation, liners must be inspected and certified as meeting the requirements of § 264.573 of this subsection by an *independent qualified, Arkansas-registered professional engineer*. This certification must be maintained at the facility as part of the facility operating record. After installation, liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters.

(b) While a drip pad is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

- (1) Deterioration, malfunctions or improper operation of run-on and run-off control systems;
- (2) The presence of leakage in and proper functioning of leak detection system.
- (3) Deterioration or cracking of the drip pad surface.

Note: See § 264.573(m) for remedial action required if deterioration or leakage is detected.

§ 264.575 Closure

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with closure and post-closure care requirements that apply to landfills (§ 264.310). For permitted units, the requirement to have a permit continues throughout the post-closure period. In addition, for the purpose of closure, post-closure, and financial responsibility, such a drip pad is then considered to be landfill, and the owner or operator must meet all of the requirements for landfills specified in subsections G and H of this part.

(c)(1) The owner or operator of an existing drip pad, as defined in § 264.570 of this subsection,

that does not comply with the liner requirements of § 264.573(b)(1) must:

(i) Include in the closure plan for the drip pad under § 264.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent post-closure plan under § 264.118 of this part for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 264.112 and 264.144 of this part for closure and post-closure care of a drip pad subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

Subsection X - Miscellaneous Units

§ 264.600 Applicability

The requirements in this Subsection apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as § 264.1 provide otherwise.

§ 264.601 Environmental performance standards

A miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Permits for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste hazardous constituents from the unit. Permit terms and provisions must include those requirements of subsections I through O and subsections AA through CC of this section, Section 270 of this rule, 40 CFR Part 63 subpart EEE, and 40 CFR Part 146 that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to

(a) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in the ground water or subsurface environment, considering:

(1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;

(2) The hydrologic and geologic characteristics of the unit and the surrounding area;

(3) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water;

(4) The quantity and direction of ground-water flow;

(5) The proximity to and withdrawal rates of current and potential ground-water users;

(6) The patterns of land use in the region;

(7) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation;

(8) The potential for health risks caused by human exposure to waste constituents; and

(9) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical

structures caused by exposure to waste constituents;

(b) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface considering:

- (1) The volume and physical and chemical characteristics of the waste in the unit;
- (2) The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration;
- (3) The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;
- (4) The patterns of precipitation in the region;
- (5) The quantity, quality, and direction of ground-water flow;
- (6) The proximity of the unit to surface waters;
- (7) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;
- (8) The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils;
- (9) The patterns of land use in the region;
- (10) The potential for health risks caused by human exposure to waste constituents; and
- (11) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

(c) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

- (1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates;
- (2) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;
- (3) The operating characteristics of the unit;
- (4) The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;
- (5) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;
- (6) The potential for health risks caused by human exposure to waste constituents; and
- (7) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

(d) The open burning or the open detonation of hazardous wastes on unprotected ground surfaces is prohibited. Open burning or open detonation of wastes must be conducted in or on a containment device elevated above the ground. The containment device must be sufficiently impermeable so as to prevent the leaching or migration of waste residues into the soil beneath or around the containment device. Open burning of hazardous wastes shall not be allowed when alternate technologies are available and feasible.

(e) Applicants for a permit for open burning or open detonation of hazardous wastes shall be required to demonstrate that no reasonable alternative to open burning or detonation is currently available prior to the approval of such a permit.

§ 264.602 Monitoring, analysis, inspection, response, reporting, and corrective action

Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies must ensure compliance with §§ 264.601, 264.15, 264.33, 264.75, 264.76, 264.77, and 264.101 as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.

§ 264.603 Post-closure care

A miscellaneous unit that is a disposal unit must be maintained in a manner that complies with § 264.601 during the post-closure care period. In addition, if a treatment or storage unit has contaminated soils or ground water that cannot be completely removed or decontaminated during closure, then that unit must also meet the requirements of § 264.601 during post-closure care. The post-closure plan under § 264.118 must specify the procedures that will be used to satisfy this requirement.

Subsections Y-Z [Reserved]

Subsection AA -- Air Emission Standards for Process Vents

§ 264.1030 Applicability

(a) The rules in this Subsection apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 264.1).

(b) Except for §§ 264.1034(d) and (e), this Subsection applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10-ppmw, if these operations are conducted in:

(1) A unit that is subject to the permitting requirements of § 270, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of § 262.17(i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of § 270, or

(3) A unit that is exempt from permitting under the provisions of § 262.17(i.e., a “90-day” tank or container) and is not a recycling unit under the provisions of § 261.6.

(c) For the owner and operator of a facility subject to this subsection and who received a final permit under RCRA section 3005 prior to December 6, 1996, the requirements of this subsection shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 40 CFR 124.15 or reviewed in accordance with the requirements of § 270.50(d). Until such date when the owner and operator receive a final permit incorporating the requirements of this subsection, the owner and operator are subject to the requirements of Section 265, Subsection AA of this rule.

(d) Until such date when the owner and operator receives a final permit incorporating the requirements of this subsection, the owner and operator are subject to the requirements of § 265, subsection AA.

(e) The requirements of this subsection do not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this subsection are equipped with and operating air emission controls in accordance with the process vent requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part

61, or part 63 shall be kept with, or made readily available with, the facility operating record.

[Note: The requirements of §§ 264.1032 through 264.1036 apply to process vents on hazardous waste recycling units previously exempt under § 261.6(c)(1). Other exemptions under §§ 261.4 and 264.1(g) are not affected by these requirements.]

§ 264.1031 Definitions

As used in this Subsection, all terms not defined herein shall have the meaning given them in RCRA, the Act and sections 260-266, 268, 270, and 279 of this rule.

“Air stripping operation” is a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers, and bubble-cap, sieve, or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

“Bottoms receiver” means a container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

“Closed-vent system” means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

“Condenser” means a heat-transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

“Connector” means flanged, screwed, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

“Continuous recorder” means a data-recording device recording an instantaneous data value at least once every 15 minutes.

“Control device” means an enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

“Control device shutdown” means the cessation of operation of a control device for any purpose.

“Distillate receiver” means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

“Distillation operation” means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

“Double block and bleed system” means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

“Equipment” means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems required by this Subsection.

“Flame zone” means the portion of the combustion chamber in a boiler occupied by the flame envelope.

“Flow indicator” means a device that indicates whether gas flow is present in a vent stream.

“First attempt at repair” means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

“Fractionation operation” means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

“Hazardous waste management unit shutdown” means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than 24 hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

“Hot well” means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

“In gas/vapor service” means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

“In heavy liquid service” means that the piece of equipment is not in gas/vapor service or in light liquid service.

“In light liquid service” means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater than 0.3 kilopascals (kPa) at 20°C, the total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

“In situ sampling systems” means nonextractive samplers or in-line samplers.

“In vacuum service” means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

“Malfunction” means any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

“Open-ended valve or line” means any valve, except pressure relief valves, having one side of the valve seat in contact with hazardous waste and one side open to the atmosphere, either directly or through open piping.

“Pressure release” means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

“Process heater” means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

“Process vent” means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

“Repaired” means that equipment is adjusted, or otherwise altered, to eliminate a leak.

“Sampling connection” system means an assembly of equipment within a process or waste management unit used during periods of representative operation to take samples of the process or waste fluid. Equipment used to take non-routine grab samples is not considered a sampling

connection system.

“Sensor” means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

“Separator tank” means a device used for separation of two immiscible liquids.

“Solvent extraction operation” means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two being mutually insoluble) to preferentially dissolve and transfer one or more components into the solvent.

“Startup” means the setting in operation of a hazardous waste management unit or control device for any purpose.

“Steam stripping operation” means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

“Surge control tank” means a large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

“Thin-film evaporation operation” means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

“Vapor incinerator” means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

“Vented” means discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by heating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.

§ 264.1032 Standards: Process vents

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section the closed-vent system and control device must meet the requirements of § 264.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of § 264.1034(c).

(d) When an owner or operator and the Director do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the procedures in § 264.1034(c) shall be used

to resolve the disagreement.

§ 264.1033 Standards: Closed-vent systems and control devices

(a)(1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.

(2)(i) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this Subsection on the effective date that the facility becomes subject to the provisions of this Subsection must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this Subsection for installation and startup.

(ii) Any unit that begins operation after December 21, 1990, and is subject to the provisions of this subsection when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply.

(iii) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subsection shall comply with all requirements of this subpart as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subsection can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subsection. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(iv) Owners and operators of facilities and units that become newly subject to the requirements of this subsection after December 8, 1997, due to an action other than those described in paragraph (a)(2)(iii) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subsection; the 30-month implementation schedule does not apply).

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of § 264.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 264.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 260.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(4) of this section and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this Subsection. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$HT = K \left[\sum_{i=1}^n C_i H_i \right]$$

where:

HT =Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C;

K =Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C;

C_i =Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in § 260.11); and

H_i =Net heat of combustion of sample component i , kcal/9 mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as

specified in § 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{\max} , for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$\text{Log}_{10}(V_{\max}) = (H_T + 28.8) / 31.7$$

where:

28.8=Constant,

31.7=Constant,

H_T =The net heating value as determined in paragraph (e)(2) of this section.

(5) The maximum allowed velocity in m/s, V_{\max} , for an air-assisted flare shall be determined by the following equation:

$$V_{\max} = 8.706 + 0.7084 (H_T)$$

where:

8.706=Constant,

0.7084=Constant,

H_T =The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst

bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser, or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius ($^{\circ}\text{C}$) or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side).

(vii) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f)(1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of § 264.1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of § 264.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval

that is less than the design carbon replacement interval established as a requirement of § 264.1035(b)(4)(iii)(G).

(i) An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(j) An owner or operator of an affected facility seeking to comply with the provisions of this part by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(k) A closed-vent system shall meet either of the following design requirements:

(1) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in § 264.1034(b) of this subsection, and by visual inspections; or

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(l) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

(1) Each closed-vent system that is used to comply with paragraph (k)(1) of this section shall be inspected and monitored in accordance with the following requirements:

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to this section. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in § 264.1034(b) of this subsection to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(ii) After initial leak detection monitoring required in paragraph (l)(1)(i) of this section, the owner or operator shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in § 264.1034(b) of this subsection to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

(B) Closed-vent system components or connections other than those specified in paragraph (l)(1)(ii)(A) of this section shall be monitored annually and at other times as requested by the Director, except as provided for in paragraph (o) of this section, using the procedures specified in § 264.1034(b) of this subsection to demonstrate that the

components or connections operate with no detectable emissions.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of paragraph (1)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in § 264.1035 of this subsection.

(2) Each closed-vent system that is used to comply with paragraph (k)(2) of this section shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections.

(ii) The owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (1)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in § 264.1035 of this subsection.

(3) The owner or operator shall repair all detected defects as follows:

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in paragraph (1)(3)(iii) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(iv) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in § 264.1035 of this subsection.

(m) Closed-vent systems and control devices used to comply with provisions of this subsection shall be operated at all times when emissions may be vented to them.

(n) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(i) The owner or operator of the unit has been issued a final permit under § 270 which implements the requirements of subsection X of this section; or

(ii) The unit is equipped with and operating air emission controls in accordance with the applicable requirements of subsections AA and CC of either this section or of § 265; or

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

- (2) Incinerated in a hazardous waste incinerator for which the owner or operator either:
 - (i) Has been issued a final permit under § 270 which implements the requirements of subsection O of this section; or
 - (ii) Has designed and operates the incinerator in accordance with the interim status requirements of § 265, subsection O.
- (3) Burned in a boiler or industrial furnace for which the owner or operator either:
 - (i) Has been issued a final permit under § 270 which implements the requirements of § 266, subsection H; or
 - (ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of § 266, subsection H.
- (o) Any components of a closed-vent system that are designated, as described in § 264.1035(c)(9) of this subsection, as unsafe to monitor are exempt from the requirements of paragraph (l)(1)(ii)(B) of this section if:
 - (1) The owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (l)(1)(ii)(B) of this section; and
 - (2) The owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in paragraph (l)(1)(ii)(B) of this section as frequently as practicable during safe-to-monitor times.

§ 264.1034 Test methods and procedures

- (a) Each owner or operator subject to the provisions of this Subsection shall comply with the test methods and procedures requirements provided in this section.
- (b) When a closed-vent system is tested for compliance with no detectable emissions, as required in § 264.1033(l) of this subsection, the test shall comply with the following requirements:
 - (1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.
 - (2) The detection instrument shall meet the performance criteria of Reference Method 21.
 - (3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.
 - (4) Calibration gases shall be:
 - (i) Zero air (less than 10 ppm of hydrocarbon in air).
 - (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
 - (5) The background level shall be determined as set forth in Reference Method 21.
 - (6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.
 - (7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.
- (c) Performance tests to determine compliance with § 264.1032(a) and with the total organic compound concentration limit of § 264.1033(c) shall comply with the following:
 - (1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:
 - (i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(ii) Method 18 or Method 25A in 40 CFR part 60 for organic content. If Method 25A is used, the organic HAP used as the calibration gas must be the single organic HAP representing the largest percent by volume of the emissions. The use of Method 25A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(iii) Each performance test shall consist of three separate runs; each run conducted for at least 1 hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.

(iv) Total organic mass flow rates shall be determined by the following equation:

(A) For sources using Method 18:

$$E_h = Q_{2sd} \left\{ \sum_{i=1}^n C_i MW_i \right\} [0.0416] [10^{-6}]$$

where:

E_h =Total organic mass flow rate, kg/h;

Q_{sd} =Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n =Number of organic compounds in the vent gas;

C_i =Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i =Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416=Conversion factor for molar volume, kg-mol/m³ (@ 293 K and 760 mm Hg);

10⁻⁶=Conversion from ppm, ppm⁻¹.

(B) For sources utilizing Method 25A.

$$E_h = (Q)(C)(MW)(0.0416)(10^{-6})$$

Where:

E_h = Total organic mass flow rate, kg/h;

Q = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

C = Organic concentration in ppm, dry basis, as determined by Method 25A;

MW = Molecular weight of propane, 44;

0.0416 = Conversion factor for molar volume, kg-mol/m³ (@ 293 K and 760 mm Hg);

10⁻⁶ = Conversion from ppm.

(v) The annual total organic emission rate shall be determined by the following

equation:

$$E_A = (E_h)(H)$$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A , as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Director's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this Subsection, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping

operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060A (incorporated by reference under § 260.11) of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, or analyzed for its individual organic constituents.

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this Subsection or by the date when the waste is first managed in a waste management unit, whichever is later, and

(2) For continuously generated waste, annually, or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Director do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the dispute may be resolved by using direct measurement as specified at paragraph (d)(1) of this section.

§ 264.1035 Recordkeeping requirements

(a)(1) Each owner or operator subject to the provisions of this Subsection shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this Subsection may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of § 264.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this Subsection.

(2) Up-to-date documentation of compliance with the process vent standards in § 264.1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturer's name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control device.

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with § 264.1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records, including the dates, of each compliance test required by § 264.1033(k).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of “APTI Course 415: Control of Gaseous Emissions” (incorporated by reference as specified in § 260.11) or other engineering texts acceptable to the Director that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in § 264.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of § 264.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of § 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with § 264.1033 (f)(1) and (f)(2).

(3) Monitoring, operating, and inspection information required by paragraphs (f) through (k) of § 264.1033.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760°C, period when the combustion temperature is below 760°C.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 weight percent or greater, period when the combustion zone temperature is more than 28°C below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28 °C below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section, or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28 °C below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section, or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

- (v) For a flare, period when the pilot flame is not ignited.
- (vi) For a condenser that complies with § 264.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.
- (vii) For a condenser that complies with § 264.1033(f)(2)(vi)(B), period when:
 - (A) Temperature of the exhaust vent stream from the condenser is more than 6 °C above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or
 - (B) Temperature of the coolant fluid exiting the condenser is more than 6 °C above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.
- (viii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 264.1033(f)(2) (vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(F) of this section.
- (ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 264.1033(f)(2) (vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of paragraph (b)(4)(iii)(F) of this section.
- (5) Explanation for each period recorded under paragraph (4) of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.
- (6) For a carbon adsorption system operated subject to requirements specified in § 264.1033(g) or § 264.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.
- (7) For a carbon adsorption system operated subject to requirements specified in § 264.1033(h)(1), a log that records:
 - (i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.
 - (ii) Date when existing carbon in the control device is replaced with fresh carbon.
- (8) Date of each control device startup and shutdown.
- (9) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to § 264.1033(o) of this subsection shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of § 264.1033(o) of this subsection, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component.
- (10) When each leak is detected as specified in § 264.1033(l) of this subsection, the following information shall be recorded:

- (i) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.
- (ii) The date the leak was detected and the date of first attempt to repair the leak.
- (iii) The date of successful repair of the leak.
- (iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, Appendix A after it is successfully repaired or determined to be nonreparable.
- (v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(10) of this section shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Director will specify the appropriate recordkeeping requirements.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in § 264.1032 including supporting documentation as required by § 264.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

§ 264.1036 Reporting requirements

(a) A semiannual report shall be submitted by owners and operators subject to the requirements of this Subsection to the Director by dates specified by the Director. The report shall include the following information:

(1) The EPA identification number, name, and address of the facility.

(2) For each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as defined in § 264.1035(c)(4) and as indicated by the control device monitoring required by § 264.1033(f) and such exceedances were not corrected within 24 hours, or that a flare operated with visible emissions as defined in § 264.1033(d) and as determined by Method 22 monitoring, the duration and cause of each exceedance or visible emissions, and any corrective measures taken.

(b) If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in § 264.1035(c)(4) for more than 24 hours or a flare does not operate with visible emissions as defined in § 264.1033(d), a report to the Director is not required.

§§ 264.1037 -- 264.1049 [Reserved]

Subsection BB -- Air Emissions Standards for Equipment Leaks

§ 264.1050 Applicability

(a) The rules in this Subsection apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 264.1).

(b) Except as provided in § 264.1064(k), this Subsection applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following:

(1) A unit that is subject to the permitting requirements of § 270, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of § 262.17 (i.e., a hazardous waste recycling unit that is not a “90-day” tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of § 270, or

(3) A unit that is exempt from permitting under the provisions of § 262.17(i.e., a “90-day” tank or container) and is not a recycling unit under the provisions of § 261.6.

(c) For the owner or operator of a facility subject to this subsection and who received a final permit under RCRA section 3005 prior to December 6, 1996, the requirements of this subsection shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 40 CFR 124.15 or reviewed in accordance with the requirements of § 270.50(d). Until such date when the owner or operator receives a final permit incorporating the requirements of this subsection, the owner or operator is subject to the requirements of § 265, subsection BB.

(d) Each piece of equipment to which this Subsection applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(e) Equipment that is in vacuum service is excluded from the requirements of § 264.1052 to § 264.1060 if it is identified as required in § 264.1064(g)(5).

[Note: The requirements of §§ 264.1052 through 264.1065 apply to equipment associated with hazardous waste recycling units previously exempt under § 261.6(c)(1). Other exemptions under §§ 261.4 and 264.1(g) are not affected by these requirements.]

(f) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of §§ 264.1052 through 264.1060 of this subsection if it is identified as required in § 264.1064(g)(6) of this subsection.

(g) *Reserved.*

(h) Purged coatings and solvents from surface coating operations subject to the national emission standards for hazardous air pollutants (NESHAP) for the surface coating of automobiles and light-duty trucks at 40 CFR part 63, subpart IIII, are not subject to the requirements of this subsection.

§ 264.1051 Definitions

As used in this Subsection, all terms shall have the meaning given in § 264.1031, RCRA, the Act, and §§ 260-263 of this rule.

§ 264.1052 Standards: Pumps in light liquid service

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 264.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

- (2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
- (b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (2) If there are indications of liquids dripping from the pump seal, a leak is detected.
- (c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.
- (2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.
- (d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the following requirements are met:
- (1) Each dual mechanical seal system must be:
- (i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or
 - (ii) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of § 264.1060, or
 - (iii) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.
- (2) The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.
- (3) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
- (4) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.
- (5)(i) Each sensor as described in paragraph (d)(3) of this section must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.
- (ii) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
- (6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.
- (ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.
 - (iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.
- (e) Any pump that is designated, as described in § 264.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:
- (1) Must have no externally actuated shaft penetrating the pump housing.
 - (2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 264.1063(c).
 - (3) Must be tested for compliance with paragraph (e)(2) of this section initially upon

designation, annually, and at other times as requested by the Director.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of § 264.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

§ 264.1053 Standards: Compressors

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of § 264.1060, or

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of § 264.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 264.1064(g)(2), for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 264.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Director.

§ 264.1054 Standards: Pressure relief devices in gas/vapor service

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 264.1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 264.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 264.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in § 264.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

§ 264.1055 Standards: Sample connecting systems

(a) Each sampling connection system shall be equipped with a closed purge system or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall meet one of the following requirements:

(1) Return the purged process fluid directly to the process line;

(2) Collect and recycle the purged process fluid; or

(3) Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of § 264.1084 through § 264.1086 of this section or a control device that complies with the requirements of § 264.1060 of this section.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 264.1056 Standards: Open-ended valves or lines

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

§ 264.1057 Standards: Valves in gas/vapor service or light liquid service

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in § 264.1063(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, and §§ 264.1061 and 264.1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months,

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 264.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

- (1) Tightening of bonnet bolts.
- (2) Replacement of bonnet bolts.
- (3) Tightening of packing gland nuts.
- (4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 264.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

- (1) Has no external actuating mechanism in contact with the hazardous waste stream.
- (2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 264.1063(c).
- (3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Director.

(g) Any valve that is designated, as described in § 264.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 264.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 264.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in § 264.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 264.1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of paragraph (a) of this section and from the record-keeping requirements of § 264.1064 of this section.

§ 264.1059 Standards: Delay of repair

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 264.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

§ 264.1060 Standards: Closed-vent systems and control devices

(a) Owners and operators of closed-vent systems and control devices subject to this subsection

shall comply with the provisions of § 264.1033 of this section.

(b)(1) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subsection on the effective date that the facility becomes subject to the provisions of this subsection must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subsection for installation and startup.

(2) Any unit that begins operation after December 21, 1990, and is subject to the provisions of this subsection when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply.

(3) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subsection shall comply with all requirements of this subpart as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subsection can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award or contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subsection. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(4) Owners and operators of facilities and units that become newly subject to the requirements of this subsection after December 8, 1997, due to an action other than those described in paragraph (b)(3) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subsection; the 30-month implementation schedule does not apply).

§ 264.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak

(a) An owner or operator subject to the requirements of § 264.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Director.

(2) If a valve leak is detected, it shall be repaired in accordance with § 264.1057(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in § 264.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in § 264.1063(b).

- (2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in § 264.1057 for which leaks are detected by the total number of valves subject to the requirements in § 264.1057 within the hazardous waste management unit.

§ 264.1062 Alternative standards for valves in gas/vapor service or in light liquid service; skip period leak detection and repair

- (a) An owner or operator subject to the requirements of § 264.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in paragraphs (b) (2) and (3) of this section.
- (b)(1) An owner or operator shall comply with the requirements for valves, as described in § 264.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.
 - (2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every six months) for the valves subject to the requirements in § 264.1057 of this subsection.
 - (3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip three of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to the requirements in § 264.1057 of this subsection.
 - (4) If the percentage of valves leaking is greater than 2 percent, the owner or operator shall monitor monthly in compliance with the requirements in § 264.1057, but may again elect to use this section after meeting the requirements of § 264.1057(c)(1).

§ 264.1063 Test methods and procedures

- (a) Each owner or operator subject to the provisions of this Subsection shall comply with the test methods and procedures requirements provided in this section.
- (b) Leak detection monitoring, as required in §§ 264.1052-11.1062, shall comply with the following requirements:
 - (1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.
 - (2) The detection instrument shall meet the performance criteria of Reference Method 21.
 - (3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.
 - (4) Calibration gases shall be:
 - (i) Zero air (less than 10 ppm of hydrocarbon in air).
 - (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
 - (5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.
- (c) When equipment is tested for compliance with no detectable emissions, as required in §§ 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f), the test shall comply with the following requirements:
 - (1) The requirements of paragraphs (b)(1) through (4) of this section shall apply.
 - (2) The background level shall be determined as set forth in Reference Method 21.
 - (3) The instrument probe shall be traversed around all potential leak interfaces as close to

the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by § 264.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85 (incorporated by reference under § 260.11);

(2) Method 9060A (incorporated by reference under § 260.11) of “Test Methods for Evaluating Solid Waste,” EPA Publication SW-846, for computing total organic concentration of the sample, or analyzed for its individual organic constituents ; or

(3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When an owner or operator and the Director do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under § 260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of § 264.1034(c)(1) through (c)(4).

§ 264.1064 Recordkeeping requirements

(a)(1) Each owner or operator subject to the provisions of this Subsection shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this Subsection may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which Subsection BB of Section 264 applies:

- (i) Equipment identification number and hazardous waste management unit identification.
 - (ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).
 - (iii) Type of equipment (e.g., a pump or pipeline valve).
 - (iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.
 - (v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).
 - (vi) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).
- (2) For facilities that comply with the provisions of § 264.1033(a)(2), an implementation schedule as specified in § 264.1033(a)(2).
- (3) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in § 264.1035(b)(3).
- (4) Documentation of compliance with § 264.1060, including the detailed design documentation or performance test results specified in § 264.1035(b)(4).
- (c) When each leak is detected as specified in §§ 264.1052, 264.1053, 264.1057, and 264.1058, the following requirements apply:
- (1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with § 264.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.
 - (2) The identification on equipment, except on a valve, may be removed after it has been repaired.
 - (3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 264.1057(c) and no leak has been detected during those 2 months.
- (d) When each leak is detected as specified in §§ 264.1052, 264.1053, 264.1057, and 264.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:
- (1) The instrument and operator identification numbers and the equipment identification number.
 - (2) The date evidence of a potential leak was found in accordance with § 264.1058(a).
 - (3) The date the leak was detected and the dates of each attempt to repair the leak.
 - (4) Repair methods applied in each attempt to repair the leak.
 - (5) “Above 10,000” if the maximum instrument reading measured by the methods specified in § 264.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.
 - (6) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (7) Documentation supporting the delay of repair of a valve in compliance with § 264.1059(c).
 - (8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.
 - (9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
 - (10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of § 264.1060 shall be recorded and kept up-to-date in the facility operating record as specified in § 264.1035(c). Design documentation is specified in § 264.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in § 264.1035(c)(3)-(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Director will specify the appropriate recordkeeping requirements.

(g) The following information pertaining to all equipment subject to the requirements in §§ 264.1052 through 264.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this Subsection.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of §§ 264.1052(e), 264.1053(i), and 264.1057(f).

(ii) The designation of this equipment as subject to the requirements of §§ 264.1052(e), 264.1053(i), or 264.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 264.1054(a).

(4)(i) The dates of each compliance test required in §§ 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per calendar year.

(h) The following information pertaining to all valves subject to the requirements of § 264.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with § 264.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in § 264.1052(d)(5)(ii) and § 264.1053(e)(2) and an explanation of the design criteria.

- (2) Any changes to these criteria and the reasons for the changes.
- (k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this Subsection and other specific Subsections:
- (1) An analysis determining the design capacity of the hazardous waste management unit.
 - (2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in §§ 264.1052 through 264.1060 and an analysis determining whether these hazardous wastes are heavy liquids.
 - (3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§ 264.1052 through 264.1060. The record shall include supporting documentation as required by § 264.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in §§ 264.1052 through 264.1060, then a new determination is required.
 - (l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.
 - (m) The owner or operator of a facility with equipment that is subject to this subsection and to regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this subsection either by documentation pursuant to § 264.1064 of this subsection, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 pursuant to the relevant provisions of the regulations at 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record.

§ 264.1065 Reporting requirements

- (a) A semiannual report shall be submitted by owners and operators subject to the requirements of this Subsection to the Director by dates specified by the Director. The report shall include the following information:
- (1) The Environmental Protection Agency identification number, name, and address of the facility.
 - (2) For each month during the semiannual reporting period:
 - (i) The equipment identification number of each valve for which a leak was not repaired as required in § 264.1057(d).
 - (ii) The equipment identification number of each pump for which a leak was not repaired as required in § 264.1052 (c) and (d)(6).
 - (iii) The equipment identification number of each compressor for which a leak was not repaired as required in § 264.1053(g).
 - (3) Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period.
 - (4) For each month during the semiannual reporting period, dates when the control device installed as required by § 264.1052, 264.1053, 264.1054, or 264.1055 exceeded or operated outside of the design specifications as defined in § 264.1064(e) and as indicated by the control device monitoring required by § 264.1060 and was not corrected within 24 hours, the

duration and cause of each exceedance, and any corrective measures taken.

(b) If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in §§ 264.1057 (d), 264.1052 (c) and (d)(6), and 264.1053 (g), respectively, and the control device does not exceed or operate outside of the design specifications as defined in § 264.1064(e) for more than 24 hours, a report to the Director is not required.

§§ 264.1066 -- 264.1079 [Reserved]

Subsection CC—Air Emission Standards for Tanks, Surface Impoundments, and Containers

§ 264.1080 Applicability

(a) The requirements of this subsection apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either subsections I, J, or K of this Section except as § 264.1 and paragraph (b) of this section provide otherwise.

(b) The requirements of this subsection do not apply to the following waste management units at the facility:

(1) A waste management unit that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996.

(2) A container that has a design capacity less than or equal to 0.1 m³.

(3) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(4) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(5) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of RCRA sections 3004(u), 3004(v) or 3008(h), CERCLA authorities, or similar Federal or State authorities.

(6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(7) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR section 60, part 61, or part 63. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, must be in compliance with the enclosure and control device requirements of § 264.1084(i), except as provided in § 264.1082(c)(5).

(8) A tank that has a process vent as defined in §264.1031.

(c) For the owner and operator of a facility subject to this subsection who received a final permit under RCRA section 3005 prior to December 6, 1996, the requirements of this subsection shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 40

CFR 124.15 or is reviewed in accordance with the requirements of § 270.50(d) of this rule. Until such date when the permit is reissued in accordance with the requirements of 40 CFR 124.15 or is reviewed in accordance with the requirements of § 270.50(d), the owner and operator are subject to the requirements of Section 265, subsection CC.

(d) The requirements of this subsection, except for the recordkeeping requirements specified in § 264.1089(i) of this subsection, are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(1) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this paragraph, “organic peroxide” means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(2) The owner or operator prepares document-ation, in accordance with the requirements of § 264.1089(i) of this subsection, explaining why an undue safety hazard would be created if air emission controls specified in §§ 264.1084 through 264.1087 of this subsection are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section.

(3) The owner or operator notifies the Director in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section are managed at the facility in tanks or containers meeting the conditions of paragraph (d)(2) of this section. The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

§ 264.1081 Definitions

As used in this subsection, all terms shall have the meaning given to them in 40 CFR 265.1081, the Act, and Sections 260 through 266 of this rule.

§ 264.1082 Standards: General

(a) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this subsection.

(b) The owner or operator shall control air pollutant emissions from each hazardous waste management unit in accordance with standards specified in §§ 264.1084 through 264.1087 of this subsection, as applicable to the hazardous waste management unit, except as provided for in paragraph (c) of this section.

(c) A tank, surface impoundment, or container is exempt from standards specified in § 264.1084 through § 264.1087 of this subsection, as applicable, provided that the waste management unit is one of the following:

(1) A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in § 264.1083(a) of this subsection. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(2) A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

(i) A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (Ct) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in § 264.1083(b) of this subsection.

(ii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in § 264.1083(b) of this subsection.

(iii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in § 264.1083(b) of this subsection.

(iv) A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

(A) The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in § 264.1083(b) of this subsection.

(B) The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in § 264.1083(b) of this subsection.

(v) A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

(A) From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls in accordance with the standards specified in § 264.1084 through § 264.1087 of this subsection, as applicable

to the waste management unit.

(B) From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The EPA considers a drain system that meets the requirements of 40 CFR part 63, subpart RR - National Emission Standards for Individual Drain Systems to be a closed system.

(C) The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in § 264.1083(a) of this sub-section. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in § 264.1083(b) of this subsection.

(vi) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination shall be determined using the procedures specified in § 264.1083(b) and § 264.1083(a) of this subsection, respectively.

(vii) A hazardous waste incinerator for which the owner or operator has either:

(A) Been issued a final permit under § 270 which implements the requirements of subsection O of this section; or

(B) Has designed and operates the incinerator in accordance with the interim status requirements of § 265, subsection O.

(viii) A boiler or industrial furnace for which the owner or operator has either:

(A) Been issued a final permit under § 270 which implements the requirements of § 266, subsection H, or

(B) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of § 266, subsection H.

(ix) For the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of paragraphs (c)(2)(i) through (c)(2)(vi) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(A) If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, Appendix A, or a value of 25 ppmw, whichever is less.

(B) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value at least 0.1mole- fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m³] at 25 degrees Celsius.

(3) A tank or surface impoundment used for biological treatment of hazardous waste in accordance with the requirements of paragraph (c)(2)(iv) of this section.

(4) A tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

(i) Meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in § 268 - Land Disposal Restrictions under Table “Treatment Standards for Hazardous Waste” in § 268.40; or

(ii) The organic hazardous constituents in the waste have been treated by the treatment technology established by the EPA for the waste in § 268.42(a), or have been removed or destroyed by an equivalent method of treatment approved by EPA pursuant to § 268.42(b).

(5) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

(i) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF - National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(ii) The enclosure and control device serving the tank were installed and began operation prior to December 6, 1996 and

(iii) The enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” annually.

(d) The Director may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this section as follows:

(1) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of § 264.1083(a) of this subsection. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of § 264.1083(b) of this subsection.

(2) In performing a waste determination pursuant to paragraph (d)(1) of this section, the sample preparation and analysis shall be conducted as follows:

(i) In accordance with the method used by the owner or operator to perform the waste analysis, except in the case specified in paragraph (d)(2)(ii) of this section.

(ii) If the Director determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the Director may choose an appropriate method.

(3) In a case when the owner or operator is requested to perform the waste determination, the Director may elect to have an authorized representative observe the collection of the

hazardous waste samples used for the analysis.

(4) In a case when the results of the waste determination performed or requested by the Director do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of paragraph (d)(1) of this section shall be used to establish compliance with the requirements of this subsection.

(5) In a case when the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the Director may elect to establish compliance with this subsection by performing or requesting that the owner or operator perform a waste determination using direct measurement based on waste samples collected within a 1-hour period as follows:

(i) The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of § 264.1083(a) of this subsection.

(ii) Results of the waste determination performed or requested by the Director showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subsection except in a case as provided for in paragraph (d)(5)(iii) of this section.

(iii) For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than 1 hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given 1-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of § 264.1083(a) and § 264.1089 of this subsection shall be considered by the Director together with the results of the waste determination performed or requested by the Director in establishing compliance with this subsection.

§ 264.1083 Waste determination procedures

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination.

(1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of § 264.1082(c)(1) of this subsection from using air emission controls in accordance with standards specified in § 264.1084 through § 264.1087 of this subsection, as applicable to the waste management unit.

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of § 264.1082(c)(1) of this subsection from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit; and

(ii) Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the

hazardous waste to increase to a level that is equal to or greater than the applicable VO concentration limits specified in § 264.1082 of this subsection.

(2) For a waste determination that is required by paragraph (a)(1) of this section, the average VO concentration of a hazardous waste at the point of waste origination shall be determined in accordance with the procedures specified in §§ 265.1084(a)(2) through (a)(4).

(b) Waste determination procedures for treated hazardous waste.

(1) An owner or operator shall perform the applicable waste determinations for each treated hazardous waste placed in waste management units exempted under the provisions of § 264.1082(c)(2)(i) through (c)(2)(vi) of this subsection from using air emission controls in accordance with standards specified in §§ 264.1084 through 264.1087 of this subsection, as is applicable to the waste management unit.

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in the exempt waste management unit, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination; and

(ii) Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in § 264.1082 (c)(2) of this subsection are not achieved.

(2) The waste determination for a treated hazardous waste shall be performed in accordance with the procedures specified in § 265.1084(b)(2) through (b)(9), as applicable to the treated hazardous waste.

(c) Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank.

(1) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with standards specified in § 264.1084(c) of this subsection.

(2) The maximum organic vapor pressure of the hazardous waste may be determined in accordance with the procedures specified in § 265.1084(c)(2) through (c)(4).

(d) The procedure for determining no detectable organic emissions for the purpose of complying with this subsection shall be conducted in accordance with the procedures specified in § 265.1084(d).

§ 264.1084 Standards: Tanks

(a) The provisions of this section apply to the control of air pollutant emissions from tanks for which § 264.1082(b) of this subsection references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from each tank subject to this section in accordance with the following requirements as applicable:

(1) For a tank that manages hazardous waste that meets all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in paragraph (c) of this section or the Tank Level 2 controls specified in paragraph (d) of this section.

(i) The hazardous waste in the tank has a maximum organic vapor pressure which is

less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m³, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m³ but less than 151 m³, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m³, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with paragraph (b)(1)(i) of this section.

(iii) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in § 265.1081.

(2) For a tank that manages hazardous waste that does not meet all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section. Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in paragraph (b)(1)(i) of this section.

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in paragraphs (c)(1) through (c)(4) of this section:

(1) The owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in § 264.1083(c) of this subsection. Thereafter, the owner or operator shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in paragraph (b)(1)(i) of this section, as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(iii) Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either:

(A) Equipped with a closure device designed to operate such that when the closure

device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank, except as provided for in paragraphs (c)(2)(iii)(B) (1) and (2) of this section.

(1) During periods when it is necessary to provide access to the tank for performing the activities of paragraph (c)(2)(iii)(B)(2) of this section, venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

(2) During periods of routine inspection, maintenance, or other activities needed for normal operations, and for removal of accumulated sludge or other residues from the bottom of the tank.

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other

requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in § 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except under the special conditions provided for in paragraph (l) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(b) of this subsection.

(d) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The owner or operator who controls air pollutant emissions from a tank using a fixed-roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in § 265.1081; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided in paragraph (e)(3)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank

is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in paragraph (e)(3)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by paragraph (e)(3)(ii) or (e)(3)(iii) of this section, the owner or operator shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (e)(3)(iv)(B) of this section.

(B) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in §264.1089(b) of this subsection.

(4) Safety devices, as defined in § 265.1081, may be installed and operated as necessary on any tank complying with the requirements of paragraph (e) of this section.

(f) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in § 265.1081. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm²) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical

distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular

space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

(i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

(B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

(C) If a tank ceases to hold hazardous waste for a period of 1 year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of paragraphs (f)(3)(i)(A) and (f)(3)(i)(B) of this section.

(D) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(1) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(2) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

(3) For a seal gap measured under paragraph (f)(3) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(4) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in paragraph (f)(1)(ii) of this section.

(E) In the event that the seal gap measurements do not conform to the specifications in paragraph (f)(1)(ii) of this section, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(b) of this subsection.

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(b) of this subsection.

(iii) Prior to each inspection required by paragraph (f)(3)(i) or (f)(3)(ii) of this subsection, the owner or operator shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under paragraph (f)(3)(i) of this section, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (f)(3)(iii)(C) of this section.

(C) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(4) Safety devices, as defined in § 265.1081, may be installed and operated as necessary on any tank complying with the requirements of paragraph (f) of this section.

(g) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the

pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 264.1087 of this subsection.

(2) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in § 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in § 264.1087 of this subsection.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in §264.1089(b) of this subsection.

(h) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in § 264.1083(d) of this subsection.

(3) Whenever a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in paragraph (h)(3)(i) or (h)(3)(ii) of this section.

(i) At those times when opening of a safety device, as defined in § 265.1081 of this subsection, is required to avoid an unsafe condition.

(ii) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of § 264.1087 of this subsection.

(i) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in § 264.1087 of this subsection.

(3) Safety devices, as defined in § 265.1081, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (i)(1) and (i)(2) of this section.

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in § 264.1087 of this subsection.

(j) The owner or operator shall transfer hazardous waste to a tank subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (j)(2) of this section, to the tank from another tank subject to this section or from a surface impoundment subject to § 264.1085 of this subsection shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR section 63, subpart RR - National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (j)(1) of this section do not apply when transferring a

hazardous waste to the tank under any of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in §264.1082(c)(1) of this subsection at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in § 264.1082(c)(2) of this subsection.

(iii) The hazardous waste meets the requirements of § 264.1082(c)(4) of this subsection.

(k) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraphs (c)(4), (e)(3), (f)(3), or (g)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (k)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subsection, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an “unsafe to inspect and monitor cover” and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this subsection, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried sectionially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

§ 264.1085 Standards: Surface impoundments

(a) The provisions of this section apply to the control of air pollutant emissions from surface impoundments for which § 264.1082(b) of this subsection references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

(1) A floating membrane cover in accordance with the provisions specified in paragraph (c) of this section; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with the provisions specified in paragraph (d) of this section.

(c) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet the requirements specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(i) The floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(A) of this section and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(iv) Except as provided for in paragraph (c)(1)(v) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(2) Whenever a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(i) Opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to

maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in § 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

(i) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(c) of this subsection.

(d) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet the requirements specified in paragraphs (d)(1) through (d)(3) of this section.

(1) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(ii) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in § 264.1083(d) of this subsection.

(iii) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the

effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 264.1087 of this subsection.

(2) Whenever a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(B) To remove accumulated sludge or other residues from the bottom of the surface impoundment.

(ii) Opening of a safety device, as defined in § 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in § 264.1087 of this subsection.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 264.1089(c) of this subsection.

(e) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (e)(2) of this section, to the surface impoundment from another surface impoundment subject to this section or from a tank subject to § 264.1084 of this subsection shall be conducted using continuous hard-piping

or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR - National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (e)(1) of this section do not apply when transferring a hazardous waste to the surface impoundment under either of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in § 264.1082(c)(1) of this subsection at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in § 264.1082(c)(2) of this subsection.

(iii) The hazardous waste meets the requirements of § 264.1082(c)(4) of this subsection.

(f) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(3) or (d)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (f)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the surface impoundment stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(g) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subsection, subsequent inspection and monitoring may be performed at intervals longer than 1 year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an “unsafe to inspect and monitor cover” and comply with all of the following requirements:

(1) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(2) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of this subsection as frequently as practicable during those times when a worker can safely access the cover.

§ 264.1086 Standards: Containers

(a) The provisions of this section apply to the control of air pollutant emissions from containers for which § 264.1082(b) of this subsection references the use of this section for such air emission control.

(b) General requirements.

(1) The owner or operator shall control air pollutant emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in paragraph (b)(2) of this section apply to the container.

(i) For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3 , the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(ii) For a container having a design capacity greater than 0.46 m^3 that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(iii) For a container having a design capacity greater than 0.46 m^3 that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in paragraph (d) of this section.

(2) When a container having a design capacity greater than 0.1 m^3 is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 3 standards specified in paragraph (e) of this section at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(c) Container Level 1 standards.

(1) A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a "portable tank" or bulk cargo container equipped with a screw-type cap).

(iii) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of paragraph (c)(1)(ii) or (c)(1)(iii) of this section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as the container is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(3) Whenever a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed

position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in § 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in § 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in § 261.7(b)), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date the container is accepted at the facility (i.e., the date the container becomes subject to the subsection CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest (EPA Forms 8700-22 and 8700-22A), as required under subsection E of this section, at § 264.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(5) The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m³ or greater, which do not meet applicable DOT regulations as specified in paragraph (f) of this section, are not managing hazardous waste in light material service.

(d) Container Level 2 standards.

(1) A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container that operates with no detectable organic emissions as defined in §

265.1081 and determined in accordance with the procedure specified in paragraph (g) of this section.

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, Appendix A, Method 27 in accordance with the procedure specified in paragraph (h) of this section.

(2) Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(3) Whenever a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in § 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in § 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in § 261.7(b)), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subsection CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest (EPA Forms 8700-22 and 8700-22A), as required under subsection E of this section, at § 264.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a

defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(e) Container Level 3 standards.

(1) A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of paragraph (e)(2)(ii) of this section.

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 264.1087 of this subsection.

(3) Safety devices, as defined in § 265.1081, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph(e)(1) of this section.

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of this subsection shall inspect and monitor the closed-vent systems and control devices as specified in § 264.1087 of this subsection.

(5) Owners and operators that use Container Level 3 controls in accordance with the provisions of this subsection shall prepare and maintain the records specified in § 264.1089(d) of this subsection.

(6) Transfer of hazardous waste in or out of a container using Container Level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the Division considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the

vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(f) For the purpose of compliance with paragraph (c)(1)(i) or (d)(1)(i) of this section, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178 - Specifications for Packaging or 49 CFR part 179 - Specifications for Tank Cars.

(2) Hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B - Exemptions; 49 CFR part 172 - Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173 - Shippers - General Requirements for Shipments and Packages; and 49 CFR part 180 - Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with this subsection, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in paragraph (f)(4) of this section.

(4) For a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with this subpart, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) To determine compliance with the no detectable organic emissions requirement of paragraph (d)(1)(ii) of this section, the procedure specified in § 264.1083(d) of this subsection shall be used.

(1) Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to: The interface of the cover rim and the container wall; the periphery of any opening on the container or container cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, Appendix A for the purpose of complying with paragraph (d)(1)(iii) of this section.

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, Appendix A .

(2) A pressure measurement device shall be used that has a precision of ± 2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

§ 264.1087 Standards: Closed-vent systems and control devices

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this subsection.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in paragraph (c) of this section.

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in § 264.1033(k) of this part.

(3) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in paragraph (b)(3)(i) of this section or a seal or locking device as specified in paragraph (b)(3)(ii) of this section. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with paragraph (b)(3) of this section, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with paragraph (b)(3) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the owner or operator in accordance with the procedure specified in § 264.1033(l).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of § 264.1033(c) of this part; or

(iii) A flare designed and operated in accordance with the requirements of § 264.1033(d) of this part.

(2) The owner or operator who elects to use a closed-vent system and control device to comply with the requirements of this section shall comply with the requirements specified in paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and

(c)(1)(iii) of this section for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during a control device system malfunction.

(iv) The owner or operator shall demonstrate compliance with the requirements of paragraph (c)(2)(i) of this section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year) by recording the information specified in § 264.1089(e)(1)(v) of this subsection.

(v) The owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The owner or operator shall operate the closed-vent system such that gases, vapors, or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, and/or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The owner or operator using a carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of § 264.1033(g) or § 264.1033(h) of this part.

(ii) All carbon that is a hazardous waste and that is removed from the control device shall be managed in accordance with the requirements of § 264.1033(n), regardless of the average volatile organic concentration of the carbon.

(4) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the requirements of § 264.1033(j) of this part.

(5) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (c)(1) of this section as follows:

(i) An owner or operator shall demonstrate using either a performance test as specified in paragraph (c)(5)(iii) of this section or a design analysis as specified in paragraph (c)(5)(iv) of this section the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued a final permit under § 270 and has designed and operates the unit in accordance with the requirements of § 266, subsection H; or

(E) A boiler or industrial furnace burning hazardous waste for which the owner or

operator has designed and operates in accordance with the interim status requirements of § 266, subsection H.

(ii) An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in § 264.1033(e).

(iii) For a performance test conducted to meet the requirements of paragraph (c)(5)(i) of this section, the owner or operator shall use the test methods and procedures specified in § 264.1034(c)(1) through (c)(4).

(iv) For a design analysis conducted to meet the requirements of paragraph (c)(5)(i) of this section, the design analysis shall meet the requirements specified in § 264.1035(b)(4)(iii).

(v) The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of paragraph (c)(1) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the owner or operator and the Director do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (c)(5)(iii) of this section. The Director may choose to have an authorized representative observe the performance test.

(7) The closed vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in § 264.1033(f)(2) and § 264.1033(l). The readings from each monitoring device required by § 264.1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this section.

§ 264.1088 Inspection and monitoring requirements

(a) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subsection in accordance with the applicable requirements specified in § 264.1084 through § 264.1087 of this subsection.

(b) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by paragraph (a) of this section. The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under § 264.15.

§ 264.1089 Recordkeeping requirements

(a) Each owner or operator of a facility subject to requirements in this subsection shall record and maintain the information specified in paragraphs (b) through (j) of this section, as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraphs (i) and (j) of this section, records required by this section shall be maintained in the operating record for a minimum of 3 years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by paragraph (i) and (j) of this section shall be maintained in the operating record for as long as the waste management unit is not using air emission controls specified in §§ 264.1080(d) or § 264.1080(b)(7) of this

subsection in accordance with the conditions specified in § 264.1084(d) of this subsection, respectively.

(b) The owner or operator of a tank using air emission controls in accordance with the requirements of § 264.1084 of this subsection shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of § 264.1084 of this subsection, the owner or operator shall record:

(i) A tank identification number (or other unique identification description as selected by the owner or operator).

(ii) A record for each inspection required by § 264.1084 of this subsection that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 264.1084 of this subsection, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(2) In addition to the information required by paragraph (b)(1) of this section, the owner or operator shall record the following information, as applicable to the tank:

(i) The owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in § 264.1084(c) of this subsection shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of § 264.1084(c) of this subsection. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in § 264.1084(e) of this subsection shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in § 264.1084(f) of this subsection shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by § 264.1084(f)(3) of this subsection describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in § 264.1084(f)(1) of this subsection, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in § 264.1084(i) of this subsection shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T - Criteria for and Verification of a

Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(c) The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of § 264.1085 of this subsection shall prepare and maintain records for the surface impoundment that include the following information:

(1) A surface impoundment identification number (or other unique identification description as selected by the owner or operator).

(2) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in § 264.1085(c) of this subsection.

(3) A record for each inspection required by § 264.1085 of this subsection that includes the following information:

(i) Date inspection was conducted.

(ii) For each defect detected during the inspection the following information: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 264.1085(f) of this subsection, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in paragraph (e) of this section.

(d) The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of § 264.1086 of this subsection shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B.

(2) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(e) The owner or operator using a closed-vent system and control device in accordance with the requirements of § 264.1087 of this subsection shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in paragraph (e)(1)(ii) of this section or by performance tests as specified in paragraph (e)(1)(iii) of this section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in 40 CFR 264.1035(b)(4). The documentation shall include information prepared by the owner or

operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with § 264.1035(b)(4)(iii) and certification by the owner or operator that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in § 264.1035(b)(3) and all test results.

(iv) Information as required by § 264.1035(c)(1) and § 264.1035(c)(2), as applicable.

(v) An owner or operator shall record, on a semiannual basis, the information specified in paragraphs (e)(1)(v)(A) and (e)(1)(v)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of § 264.1087(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of § 264.1087(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable, due to planned routine maintenance.

(vi) An owner or operator shall record the information specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of § 264.1087(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with § 264.1087 (c)(3)(ii) of this subsection.

(f) The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of § 264.1082(c) of this subsection shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, or containers exempted under the hazardous waste organic concentration conditions specified in § 264.1082(c)(1) or (c)(2) of this subsection, the owner or operator shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of § 264.1083 of this subsection.

(2) For tanks, surface impoundments, or containers exempted under the provisions of § 264.1082(c)(2)(vii) or § 264.1082(c)(2)(viii) of this subsection, the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.

(g) An owner or operator designating a cover as “unsafe to inspect and monitor” pursuant to § 264.1084(l) or § 264.1085(g) of this subsection shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as “unsafe to inspect and monitor,” the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The owner or operator of a facility that is subject to this subsection and to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of this subsection by documentation either pursuant to this subsection, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by this section.

(i) For each tank or container not using air emission controls specified in §§ 264.1084 through 264.1087 of this subsection in accordance with the conditions specified in § 264.1080(d) of this subsection, the owner or operator shall record and maintain the following information:

(1) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in § 264.1080(d)(1).

(2) A description of how the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section are managed at the facility in tanks and containers. This description shall include:

(i) For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: A facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to describe: A facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(3) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section in the tanks and containers as described in paragraph (i)(2) of this section would create an undue safety hazard if the air emission controls, as required under §§ 264.1084 through 264.1087 of this subsection, are installed and operated on these waste management units. This explanation shall include the following information:

(i) For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under this subsection, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls

on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under this subsection, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(j) For each hazardous waste management unit not using air emission controls specified in §§ 264.1084 through 264.1087 of this subsection in accordance with the requirements of § 264.1080(b)(7) of this subsection, the owner and operator shall record and maintain the following information:

(1) Certification that the waste management unit is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63.

(2) Identification of the specific requirements codified under 40 CFR part 60, part 61, or part 63 with which the waste management unit is in compliance.

§ 264.1090 Reporting requirements

(a) Each owner or operator managing hazardous waste in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of § 264.1082(c) shall report to the Director each occurrence when hazardous waste is placed in the waste management unit in noncompliance with the conditions specified in § 264.1082(c)(1) or (c)(2) of this subsection, as applicable. Examples of such occurrences include placing in the waste management unit a hazardous waste having an average VO concentration equal to or greater than 500 ppmw at the point of waste origination; or placing in the waste management unit a treated hazardous waste which fails to meet the applicable conditions specified in § 264.1082(c)(2)(i) through (c)(2)(vi) of this subsection. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent reoccurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(b) Each owner or operator using air emission controls on a tank in accordance with the requirements § 264.1084(c) of this subsection shall report to the Director each occurrence when hazardous waste is managed in the tank in noncompliance with the conditions specified in § 264.1084(c)(1) through (c)(4) of this subsection. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent reoccurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(c) Each owner or operator using a control device in accordance with the requirements of § 264.1087 of this subsection shall submit a semiannual written report to the Director except as provided for in paragraph (d) of this section. The report shall describe each occurrence during the previous 6-month period when either:

(1) A control device is operated continuously for 24 hours or longer in noncompliance with the applicable operating values defined in § 264.1035(c)(4); or

(2) A flare is operated with visible emissions for 5 minutes or longer in a two-hour period, as defined in § 264.1033(d).

The written report shall include the EPA identification number, facility name and address, and an explanation why the control device could not be returned to compliance within 24 hours, and actions taken to correct the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(d) A report to the Director in accordance with the requirements of paragraph (c) of this section is not required for a 6-month period during which all control devices subject to this subsection are operated by the owner or operator such that:

(1) During no period of 24 hours or longer did a control device operate continuously in noncompliance with the applicable operating values defined in § 264.1035(c)(4); and

(2) No flare was operated with visible emissions for 5 minutes or longer in a two-hour period, as defined in § 264.1033(d).

Subsection DD – Containment Buildings

§ 264.1100 Applicability

The requirements of this subsection apply to owners or operators who store or treat hazardous waste in units designed and operated under § 264.1101 of this subpart. The owner or operator is not subject to the definition of land disposal in RCRA section 3004(k) provided that the unit:

(a) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(b) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel, wastes, and handling equipment within the unit;

(c) If the unit is used to manage liquids, has:

(1) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time, unless the unit has been granted a variance from the secondary containment system requirements under § 264.1101(b)(4);

(d) Has controls sufficient to prevent fugitive dust emissions to meet the no visible emission standard in § 264.1101(c)(1)(iv); and

(e) Is designed and operated to ensure containment and prevent the tracking of materials from

the unit by personnel or equipment.

§ 264.1101 Design and operating standards

(a) All containment buildings must comply with the following design standards:

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. The Division will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

(i) They provide an effective barrier against fugitive dust emissions under paragraph (c)(1)(iv); and

(ii) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

(1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g., a geomembrane covered by a concrete wear surface).

(2) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building:

(i) The primary barrier must be sloped to drain liquids to the associated collection system; and

(ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(3) A secondary containment system including a secondary barrier designed and

constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of 1 percent or more; and

(B) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more.

(ii) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building.

(Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of § 264.193(e)(1). In addition, the containment building must meet the requirements of § 264.193(b) and §§ 264.193(c) (1) and (2) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Director may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this subpart. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Director of their request by November 16, 1992. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Director on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Director.

(c) Owners or operators of all containment buildings must:

(1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 CFR Part 60,

Appendix A, Method 22-Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares). In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices (see 40 CFR part 60 subpart 292 for guidance). This state of no visible emissions must be maintained effectively at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the unit.

(2) Obtain certification by *an independent qualified Arkansas-registered professional engineer* that the containment building design meets the requirements of paragraphs (a) through (c) of this section.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, the owner or operator must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has led to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator must:

(A) Enter a record of the discovery in the facility operating record;

(B) Immediately remove the portion of the containment building affected by the condition from service;

(C) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and

(D) Within 7 days after the discovery of the condition, notify the Director of the condition, and within 14 working days, provide a written notice to the Director with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(ii) The Director will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Director in writing and provide a verification, signed by a qualified, Arkansas-registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For a containment building that contains both areas with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enumerated in paragraphs (a) through (c) of this section;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subsection the Director may waive requirements

for secondary containment for a permitted containment building where the owner operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

§ 264.1102 Closure and post-closure care

(a) At closure of a containment building, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.) contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this rule applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in subsections G and H of this section.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 264.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a containment building is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subsections G and H of this section.

§ 264.1103-264.1110 [Reserved]

Subsection EE — Hazardous Waste Munitions and Explosives Storage

§ 264.1200 Applicability

The requirements of this subsection apply to owners or operators who store munitions and explosive hazardous wastes, except as § 264.1 provides otherwise. (NOTE: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (Section 264, subsection DD), tanks (Section 264, subsection J), or containers (Section 264, subsection I); See § 266.205 for storage of waste military munitions).

§ 264.1201 Design and operating standards

(a) Hazardous waste munitions and explosives storage units must be designed and operated with containment systems, controls, and monitoring, that:

- (1) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products, or contaminated run-off, to the soil, ground water, surface water, and atmosphere;
- (2) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste;
- (3) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation;
- (4) For liquid wastes, provide a secondary containment system that assures that any

released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area); and

(5) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(b) Hazardous waste munitions and explosives stored under this subsection may be stored in one of the following:

(1) Earth-covered magazines. Earth-covered magazines must be:

(i) Constructed of waterproofed, reinforced concrete or structural steel arches, with steel doors that are kept closed when not being accessed;

(ii) Designed and constructed:

(A) To be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit;

(B) To provide working space for personnel and equipment in the unit; and

(C) To withstand movement activities that occur in the unit; and

(iii) Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(2) Above-ground magazines. Above-ground magazines must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(3) Outdoor or open storage areas. Outdoor or open storage areas must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(c) Hazardous waste munitions and explosives must be stored in accordance with a Standard Operating Procedure specifying procedures to ensure safety, security, and environmental protection. If these procedures serve the same purpose as the security and inspection requirements of § 264.14, the preparedness and prevention procedures of Section 264, subsection C, and the contingency plan and emergency procedures requirements of Section 264, subsection D, then these procedures will be used to fulfill those requirements.

(d) Hazardous waste munitions and explosives must be packaged to ensure safety in handling and storage.

(e) Hazardous waste munitions and explosives must be inventoried at least annually.

(f) Hazardous waste munitions and explosives and their storage units must be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

§ 264.1202 Closure and post-closure care

(a) At closure of a magazine or unit which stored hazardous waste under this subsection, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless § 261.3(d) of this rule applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for magazines or

units must meet all of the requirements specified in subsections G and H of this section, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he or she must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 264.310).

Appendices to Section 264

Appendix I -- Recordkeeping Instructions

The recordkeeping provisions of § 264.73 specify that an owner or operator must keep a written operating record at his facility. This appendix provides additional instructions for keeping portions of the operating record. See § 264.73(b) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from Section 261 of this chapter which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in Section 261, subsection D, of this chapter, the description also must include the process that produced it (for example, solid filter cake from production of ----, EPA Hazardous Waste Number W051).

Each hazardous waste listed in Section 261, subsection D, of this chapter, and each hazardous waste characteristic defined in Section 261, subsection C, of this chapter, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1;

Table 1

| Unit of measure | Code ¹ |
|----------------------|-------------------|
| Gallons | G |
| Gallons per Hour | E |
| Gallons per Day | U |
| Liters | L |
| Liters per Hour | H |
| Liters per Day | V |
| Short Tons per Hour | D |
| Metric Tons per Hour | W |

Short Tons per Day N
 Metric Tons per Day S
 Pounds per Hour J
 Kilograms per Hour R
 Cubic Yards Y
 Cubic Meters C
 Acres B
 Acre-feet A
 Hectares Q
 Hectare-meter F
 Btu's per Hour I
 Pounds P
 Short Tons T
 Kilograms K
 Tons M

FOOTNOTE: 1 Single digit symbols are used here for data processing purposes.

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

Table 2.
Handling Codes for Treatment, Storage and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store or dispose of each quantity of hazardous waste received.

1. Storage
 S01 Container (barrel, drum, etc.)
 S02 Tank
 S03 Waste Pile
 S04 Surface Impoundment
 S05 Drip Pad
 S06 Containment Building (Storage)
 S99 Other Storage (specify)

2. Treatment

(a) Thermal Treatment--
 T06 Liquid injection incinerator
 T07 Rotary kiln incinerator
 T08 Fluidized bed incinerator
 T09 Multiple hearth incinerator
 T10 Infrared furnace incinerator
 T11 Molten salt destructor
 T12 Pyrolysis
 T13 Wet air oxidation
 T14 Calcination
 T15 Microwave discharge

T18 Other (specify)

(b) Chemical Treatment--

T19 Absorption mound

T20 Absorption field

T21 Chemical fixation

T22 Chemical oxidation

T23 Chemical precipitation

T24 Chemical reduction

T25 Chlorination

T26 Chlorinolysis

T27 Cyanide destruction

T28 Degradation

T29 Detoxification

T30 Ion exchange

T31 Neutralization

T32 Ozonation

T33 Photolysis

T34 Other (specify)

(c) Physical Treatment--

(1) Separation of components:

T35 Centrifugation

T36 Clarification

T37 Coagulation

T38 Decanting

T39 Encapsulation

T40 Filtration

T41 Flocculation

T42 Flotation

T43 Foaming

T44 Sedimentation

T45 Thickening

T46 Ultrafiltration

T47 Other (specify)

(2) Removal of Specific Components:

T48 Absorption-molecular sieve

T49 Activated carbon

T50 Blending

T51 Catalysis

T52 Crystallization

T53 Dialysis

T54 Distillation

T55 Electrodialysis

T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

(d) Biological Treatment

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic tank
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter
T75 Trickling filter
T76 Waste stabilization pond
T77 Other (specify)
T78 [Reserved]
T79 [Reserved]

(e) Boilers and Industrial Furnaces

T80 Boiler
T81 Cement Kiln
T82 Lime Kiln
T83 Aggregate Kiln
T84 Phosphate Kiln
T85 Coke Oven
T86 Blast Furnace
T87 Smelting, Melting, or Refining Furnace
T88 Titanium Dioxide Chloride Process Oxidation Reactor
T89 Methane Reforming Furnace
T90 Pulping Liquor Recovery Furnace
T91 Combustion Device Used in the Recovery of Sulfur Values
from Spent Sulfuric Acid
T92 Halogen Acid Furnaces
T93 Other Industrial Furnaces Listed in 40 CFR 260.10 (specify)

(f) Other Treatment

T94 Containment Building (Treatment)

3. Disposal

D79 Underground Injection

D80 Landfill

D81 Land Treatment

D82 Ocean Disposal

D83 Surface Impoundment (to be closed as a landfill)

D99 Other Disposal (specify)

4. Miscellaneous (Subpart X)

X01 Open Burning/Open Detonation

X02 Mechanical Processing

X03 Thermal Unit

X04 Geologic Repository

X99 Other Subpart X (specify)

Appendices II -- III [Reserved]

Appendix IV -- Cochran's Approximation to the Behrens-Fisher Students' T-Test.

Using all the available background data (n_b readings), calculate the background mean (X_b) and background variance (s_b^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (s_m^2).

For any set of data (X_1, X_2, \dots, X_n) the mean is calculated by:

$$X = \frac{X_1 + X_2 + \dots + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{(X_1 - X)^2 + (X_2 - X)^2 + \dots + (X_n - X)^2}{n - 1}$$

where "n" denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t^*) and a comparison t-statistic (t_c). The value is compared to the value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{X_m - \bar{X}_s}{\sqrt{\frac{S_m^2}{n_m} + \frac{S_b^2}{n_b}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t^* will be compared, necessitates finding t_b and t_m from standard (one-tailed) tables where,

t_b = t-tables with ($n_b - 1$) degrees of freedom, at the 0.05 level of significance.

t_m = t-tables with ($n_m - 1$) degrees of freedom, at the 0.05 level of significance.

Finally, the special weightings W_b and W_m are defined as:

$$W_b = \frac{s_b^2}{n_b} \quad \text{and} \quad W_m = \frac{s_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_b t_b + W_m t_m}{W_b + W_m}$$

The t-statistic (t^*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:

If t^* is equal to or larger than t_c , then conclude that there most likely has been a significant increase in this specific parameter.

If t^* is less than t_c , then conclude that most likely there has not been a change in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction for pH and similar monitoring parameters.

If t^* is equal to or larger than t_c , then conclude that there most likely has been a significant increase (if the initial t^* had been negative, this would imply a significant decrease). If t^* is less than t_c , then conclude that there most likely has been no change.

A further discussion of the test may be found in *Statistical Methods* (6th Edition, Section 4.14) by G. W. Snedecor and W. G. Cochran, or *Principles and Procedures of Statistics* (1st Edition, Section 5.8) by R. G. D. Steel and J. H. Torrie.

Standard T-Tables 0.05 Level of Significance

| Degrees of freedom | t-values (one-tail) | t-values (two-tail) |
|--------------------|---------------------|---------------------|
| 1 | 6.314 | 12.706 |
| 2 | 2.920 | 4.303 |
| 3 | 2.353 | 3.182 |
| 4 | 2.132 | 2.776 |
| 5 | 2.015 | 2.571 |
| 6 | 1.943 | 2.447 |
| 7 | 1.895 | 2.365 |
| 8 | 1.860 | 2.306 |
| 9 | 1.833 | 2.262 |
| 10 | 1.812 | 2.228 |
| 11 | 1.796 | 2.201 |
| 12 | 1.782 | 2.179 |
| 13 | 1.771 | 2.160 |
| 14 | 1.761 | 2.145 |
| 15 | 1.753 | 2.131 |
| 16 | 1.746 | 2.120 |
| 17 | 1.740 | 2.110 |
| 18 | 1.734 | 2.101 |
| 19 | 1.729 | 2.093 |
| 20 | 1.725 | 2.086 |
| 21 | 1.721 | 2.080 |
| 22 | 1.717 | 2.074 |

| | | |
|----|-------|-------|
| 23 | 1.714 | 2.069 |
| 24 | 1.711 | 2.064 |
| 25 | 1.708 | 2.060 |
| 30 | 1.697 | 2.042 |
| 40 | 1.684 | |

Adopted from Table III of “Statistical Tables for Biological, Agricultural, and Medical Research” (1947, R. A. Fisher and F. Yates).

Appendix V -- Examples of Potentially Incompatible Waste

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A

- Acetylene sludge
- Alkaline caustic liquids
- Alkaline cleaner
- Alkaline corrosive liquids

Alkaline corrosive battery fluid
Caustic wastewater
Lime sludge and other corrosive alkalies
Lime wastewater
Lime and water
Spent caustic

Group 1-B

Acid sludge
Acid and water
Battery acid
Chemical cleaners
Electrolyte, acid
Etching acid liquid or solvent
Pickling liquor and other corrosive acids
Spent acid
Spent mixed acid
Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2-A

Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

Group 2-B

Any waste in Group 1-A or 1-B

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A

Alcohols
Water

Group 3-B

Any concentrated waste in Groups 1-A or 1-B
Calcium
Lithium
Metal hydrides
Potassium

SO₂Cl₂, SOCl₂, PCl₃, CH₃SiCl₃

Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A

Alcohols

Aldehydes

Halogenated hydrocarbons

Nitrated hydrocarbons

Unsaturated hydrocarbons

Other reactive organic compounds and solvents

Group 4-B

Concentrated Group 1-A or 1-B wastes

Group 2-A wastes

Potential consequences: Fire, explosion, or violent reaction.

Group 5-A

Spent cyanide and sulfide solutions

Group 5-B

Group 1-B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A

Chlorates

Chlorine

Chlorites

Chromic acid

Hypochlorites

Nitrates

Nitric acid, fuming

Perchlorates

Permanganates

Peroxides

Other strong oxidizers

Group 6-B

Acetic acid and other organic acids

Concentrated mineral acids

Group 2-A wastes

Group 4-A wastes

Other flammable and combustible wastes

Potential consequences: Fire, explosion, or violent reaction.

Source: “Law, Regulations, and Guidelines for Handling of Hazardous Waste.” California Department of Health, February 1975.

Appendix VI -- Political Jurisdictions in Which Compliance With § 264.18(a) Must Be Demonstrated

None Listed.

Appendices VII - VIII [Reserved]

§ 264 Appendix IX

Groundwater Monitoring List¹

| Common name¹ | CAS RN² | Chemical abstracts service index name³ |
|--------------------------------|---------------------------|---|
| Acenaphthene | 83-32-9 | Acenaphthylene, 1,2-dihydro- |
| Acenaphthylene | 208-96-8 | Acenaphthylene |
| Acetone | 67-64-1 | 2-Propanone |
| Acetophenone | 98-86-2 | Ethanone, 1-phenyl- |
| Acetonitrile; Methyl cyanide | 75-05-8 | Acetonitrile |
| 2-Acetylaminofluorene; 2-AAF | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- |
| Acrolein | 107-02-8 | 2-Propenal |
| Acrylonitrile | 107-13-1 | 2-Propenenitrile |
| Aldrin | 309-00-2 | 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1 α ,4 α ,4a β ,5 α ,8 α ,8a β)- |
| Allyl chloride | 107-05-1 | 1-Propene, 3-chloro- |
| 4-Aminobiphenyl | 92-67-1 | [1,1'-Biphenyl]-4-amine |
| Aniline | 62-53-3 | Benzenamine |
| Anthracene | 120-12-7 | Anthracene |
| Antimony | (Total) | Antimony |
| Aramite | 140-57-8 | Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl) phenoxy]-1-methylethyl ester |
| Arsenic | (Total) | Arsenic |
| Barium | (Total) | Barium |
| Benzene | 71-43-2 | Benzene |

| | | |
|--|----------|---|
| Benzo[a]anthracene; Benzanthracene | 56-55-3 | Benz[a]anthracene |
| Benzo[b]fluoranthene | 205-99-2 | Benz[e]acephenanthrylene |
| Benzo[k]fluoranthene | 207-08-9 | Benzo[k]fluoranthene |
| Benzo[ghi]perylene | 191-24-2 | Benzo[ghi]perylene |
| Benzo[a]pyrene | 50-32-8 | Benzo[a]pyrene |
| Benzyl alcohol | 100-51-6 | Benzenemethanol |
| Beryllium | (Total) | Beryllium |
| alpha-BHC | 319-84-6 | Cyclohexane, 1,2,3,4,5,6-hexachloro- ,(1 α ,2 α ,3 β ,4 β ,5 β ,6 β)- |
| beta-BHC | 319-85-7 | Cyclohexane, 1,2,3,4,5,6-hexachloro- ,(1 α ,2 β ,3 α ,4 β ,5 α ,6 β)- |
| delta-BHC | 319-86-8 | Cyclohexane, 1,2,3,4,5,6-hexachloro- ,(1 α ,2 α ,3 α ,4 β ,5 α ,6 β)- |
| gamma-BHC; Lindane | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro- ,(1 α ,2 α ,3 β ,4 α ,5 α ,6 β)- |
| Bis(2-chloroethoxy)methane | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)]bis [2-chloro- |
| Bis(2-chloroethyl)ether | 111-44-4 | Ethane, 1,1'-oxybis[2-chloro- |
| Bis(2-chloro-1-methylethyl) ether; 2,2'-Dichlorodiisopropyl ether | 108-60-1 | Propane, 2,2'-oxybis[1-chloro- |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester |
| Bromodichloromethane | 75-27-4 | Methane, bromodichloro- |
| Bromoform; Tribromomethane | 75-25-2 | Methane, tribromo- |
| 4-Bromophenyl phenyl ether | 101-55-3 | Benzene, 1-bromo-4-phenoxy- |
| Butyl benzyl phthalate; Benzyl butyl phthalate | 85-68-7 | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester |
| Cadmium | (Total) | Cadmium |
| Carbon disulfide | 75-15-0 | Carbon disulfide |
| Carbon tetrachloride | 56-23-5 | Methane, tetrachloro- |
| Chlordane | 57-74-9 | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro- 2,3,3a,4,7,7a -hexahydro- |
| p-Chloroaniline | 106-47-8 | Benzenamine, 4-chloro- |

| | | |
|---|-----------|---|
| Chlorobenzene | 108-90-7 | Benzene, chloro- |
| Chlorobenzilate | 510-15-6 | Benzeneacetic acid, 4-chloro- α -(4-chlorophenyl)- α -hydroxy-, ethyl ester |
| p-Chloro-m-cresol | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| Chloroethane; Ethyl chloride | 75-00-3 | Ethane, chloro- |
| Chloroform | 67-66-3 | Methane, trichloro- |
| 2-Chloronaphthalene | 91-58-7 | Naphthalene, 2-chloro- |
| 2-Chlorophenol | 95-57-8 | Phenol, 2-chloro- |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | Benzene, 1-chloro-4-phenoxy- |
| Chloroprene | 126-99-8 | 1,3-Butadiene,2-chloro- |
| Chromium | (Total) | Chromium |
| Chrysene | 218-01-9 | Chrysene |
| Cobalt | (Total) | Cobalt |
| Copper | (Total) | Copper |
| m-Cresol | 108-39-4 | Phenol, 3-methyl- |
| o-Cresol | 95-48-7 | Phenol, 2-methyl- |
| p-Cresol | 106-44-5 | Phenol, 4-methyl- |
| Cyanide | 57-12-5 | Cyanide |
| 2,4-D; 2,4-Dichlorophenoxyacetic acid | 94-75-7 | Acetic acid, (2,4-dichlorophenoxy)- |
| 4,4'-DDD | 72-54-8 | Benzene 1,1'-(2,2-dichloroethylidene) bis[4-chloro- |
| 4,4'-DDE | 72-55-9 | Benzene, 1,1'-(dichloroethenylidene) bis[4-chloro- |
| 4,4'-DDT | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene) bis[4-chloro- |
| Diallate | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S- (2,3-dichloro-2-propenyl) ester |
| Dibenz[a,h]anthracene | 53-70-3 | Dibenz[a,h]anthracene |
| Dibenzofuran | 132-64-9 | Dibenzofuran |
| Dibromochloromethane; Chlorodibromomethane | 124-48-1 | Methane, dibromochloro- |
| 1,2-Dibromo-3-chloropropane; | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |

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| DBCP | | |
| 1,2-Dibromoethane; Ethylene dibromide | 106-93-4 | Ethane, 1,2-dibromo- |
| Di-n-butyl phthalate | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester |
| o-Dichlorobenzene | 95-50-1 | Benzene, 1,2-dichloro- |
| m-Dichlorobenzene | 541-73-1 | Benzene, 1,3-dichloro- |
| p-Dichlorobenzene | 106-46-7 | Benzene, 1,4-dichloro- |
| 3,3'-Dichlorobenzidine | 91-94-1 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro- |
| trans-1,4-Dichloro-2-butene | 110-57-6 | 2-Butene, 1,4-dichloro-, (E)- |
| Dichlorodifluoromethane | 75-71-8 | Methane, dichlorodifluoro- |
| 1,1-Dichloroethane | 75-34-3 | Ethane, 1,1-dichloro- |
| 1,2-Dichloroethane; Ethylene dichloride | 107-06-2 | Ethane, 1,2-dichloro- |
| 1,1-Dichloroethylene; Vinylidene chloride | 75-35-4 | Ethene, 1,1-dichloro- |
| trans-1,2-Dichloroethylene | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| 2,4-Dichlorophenol | 120-83-2 | Phenol, 2,4-dichloro- |
| 2,6-Dichlorophenol | 87-65-0 | Phenol, 2,6-dichloro- |
| 1,2-Dichloropropane | 78-87-5 | Propane, 1,2-dichloro- |
| cis-1,3-Dichloropropene | 10061-01-5 | 1-Propene, 1,3-dichloro-, (Z)- |
| trans-1,3-Dichloropropene | 10061-02-6 | 1-Propene, 1,3-dichloro-, (E)- |
| Dieldrin | 60-57-1 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1 $\alpha\alpha$,2 β ,2 $\alpha\alpha$,3 β ,6 β ;,6 $\alpha\alpha$,7 β ,7 $\alpha\alpha$)- |
| Diethyl phthalate | 84-66-2 | 1,2-Benzenedicarboxylic acid, diethyl ester |
| O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin | 297-97-2 | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester |
| Dimethoate | 60-51-5 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester |
| p-(Dimethylamino)azobenzene | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| 7,12-Dimethylbenz[a]anthracene | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |

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| 3,3'-Dimethylbenzidine | 119-93-7 | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl- |
| alpha, alpha-Dimethylphenethylamine | 122-09-8 | Benzeneethanamine, α,α -dimethyl- |
| 2,4-Dimethylphenol | 105-67-9 | Phenol, 2,4-dimethyl- |
| Dimethyl phthalate | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester |
| m-Dinitrobenzene | 99-65-0 | Benzene, 1,3-dinitro- |
| 4,6-Dinitro-o-cresol | 534-52-1 | Phenol, 2-methyl-4,6-dinitro- |
| 2,4-Dinitrophenol | 51-28-5 | Phenol, 2,4-dinitro- |
| 2,4-Dinitrotoluene | 121-14-2 | Benzene, 1-methyl-2,4-dinitro- |
| 2,6-Dinitrotoluene | 606-20-2 | Benzene, 2-methyl-1,3-dinitro- |
| Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol | 88-85-7 | Phenol, 2-(1-methylpropyl)-4,6-dinitro- |
| Di-n-octyl phthalate | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester |
| 1,4-Dioxane | 123-91-1 | 1,4-Dioxane |
| Diphenylamine | 122-39-4 | Benzenamine, N-phenyl- |
| Disulfoton | 298-04-4 | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester |
| Endosulfan I | 959-98-8 | 6,9-Methano-2,4,3- benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3 α ,5 $\alpha\beta$,6 α ,9 α ,9 $\alpha\beta$)- |
| Endosulfan II | 33213-65-9 | 6,9-Methano-2,4,3- benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3 α ,5 $\alpha\alpha$,6 β ,9 β ,9 $\alpha\alpha$)- |
| Endosulfan sulfate | 1031-07-8 | 6,9-Methano-2,4,3- benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide |
| Endrin | 72-20-8 | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-, 1a,2,2a,3,6,6a,7,7a-octahydro-, (1 $\alpha\alpha$,2 β ,2 $\alpha\beta$,3 α ,6 α ,6 $\alpha\beta$,7 β , 7 $\alpha\alpha$)- |
| Endrin aldehyde | 7421-93-4 | 1,2,4- Methenocyclopenta[cd] pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1 α ,2 β ,2 $\alpha\beta$,4 β ,4 $\alpha\beta$,5 β ,6 $\alpha\beta$,6 $\beta\beta$,7R*)- |
| Ethylbenzene | 100-41-4 | Benzene, ethyl- |
| Ethyl methacrylate | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |

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| Ethyl methanesulfonate | 62-50-0 | Methanesulfonic acid, ethyl ester |
| Famphur | 52-85-7 | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester |
| Fluoranthene | 206-44-0 | Fluoranthene |
| Fluorene | 86-73-7 | 9H-Fluorene |
| Heptachlor | 76-44-8 | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- |
| Heptachlor epoxide | 1024-57-3 | 2,5-Methano-2H-indeno[1,2-b] oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-, (1a α ,1b β ,2 α ,5 α ,5a β ,6 β ,6a α) |
| Hexachlorobenzene | 118-74-1 | Benzene, hexachloro- |
| Hexachlorobutadiene | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- |
| Hexachlorocyclopentadiene | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| Hexachloroethane | 67-72-1 | Ethane, hexachloro- |
| Hexachlorophene | 70-30-4 | Phenol, 2,2'-methylenebis[3,4,6-trichloro- |
| Hexachloropropene | 1888-71-7 | 1-Propene, 1,1,2,3,3,3-hexachloro- |
| 2-Hexanone | 591-78-6 | 2-Hexanone |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| Isobutyl alcohol | 78-83-1 | 1-Propanol, 2-methyl- |
| Isodrin | 465-73-6 | 1,4,5,8-Dimethanonaphthalene,1,2,3,4,1 0,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1 α , 4 α , 4a β , 5 β , 8 β , 8a β)- |
| Isophorone | 78-59-1 | 2-Cyclohexen-1-one, 3,5,5-trimethyl- |
| Isosafrole | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| Kepone | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- |
| Lead | (Total) | Lead |
| Mercury | (Total) | Mercury |
| Methacrylonitrile | 126-98-7 | 2-Propenenitrile, 2-methyl- |
| Methapyrilene | 91-80-5 | 1,2,Ethanediamine,N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- |

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| Methoxychlor | 72-43-5 | Benzene, 1,1'-(2,2,2, trichloroethylidene)bis [4-methoxy- |
| Methyl bromide; Bromomethane | 74-83-9 | Methane, bromo- |
| Methyl chloride; Chloromethane | 74-87-3 | Methane, chloro- |
| 3-Methylcholanthrene | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| Methylene bromide; Dibromomethane | 74-95-3 | Methane, dibromo- |
| Methylene chloride; Dichloromethane | 75-09-2 | Methane, dichloro- |
| Methyl ethyl ketone; MEK; | 78-93-3 | 2-Butanone |
| Methyl iodide; Iodomethane | 74-88-4 | Methane, iodo- |
| Methyl methacrylate | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester |
| Methyl methanesulfonate | 66-27-3 | Methanesulfonic acid, methyl ester |
| 2-Methylnaphthalene | 91-57-6 | Naphthalene, 2-methyl- |
| Methyl parathion; Parathion methyl | 298-00-0 | Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester |
| 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 | 2-Pentanone, 4-methyl- |
| Naphthalene | 91-20-3 | Naphthalene |
| 1,4-Naphthoquinone | 130-15-4 | 1,4-Naphthalenedione |
| 1-Naphthylamine | 134-32-7 | 1-Naphthalenamine |
| 2-Naphthylamine | 91-59-8 | 2-Naphthalenamine |
| Nickel | (Total) | Nickel |
| o-Nitroaniline | 88-74-4 | Benzenamine, 2-nitro- |
| m-Nitroaniline | 99-09-2 | Benzenamine, 3-nitro- |
| p-Nitroaniline | 100-01-6 | Benzenamine, 4-nitro- |
| Nitrobenzene | 98-95-3 | Benzene, nitro- |
| o-Nitrophenol | 88-75-5 | Phenol, 2-nitro- |
| p-Nitrophenol | 100-02-7 | Phenol, 4-nitro- |
| 4-Nitroquinoline 1-oxide | 56-57-5 | Quinoline, 4-nitro, 1-oxide |
| N-Nitrosodi-n-butylamine | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| N-Nitrosodiethylamine | 55-18-5 | Ethanamine, N-ethyl-N-nitroso- |

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| N-Nitrosodimethylamine | 62-75-9 | Methanamine, N-methyl-N-nitroso- |
| N-Nitrosodiphenylamine | 86-30-6 | Benzenamine, N-nitroso-N-phenyl- |
| N-Nitrosodipropylamine;Di-n-propylnitrosamine | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| N-Nitrosomethylethalamine | 10595-95-6 | Ethanamine, N-methyl-N-nitroso- |
| N-Nitrosomorpholine | 59-89-2 | Morpholine, 4-nitroso- |
| N-Nitrosopiperidine | 100-75-4 | Piperidine, 1-nitroso- |
| N-Nitrosopyrrolidine | 930-55-2 | Pyrrolidine, 1-nitroso- |
| 5-Nitro-o-toluidine | 99-55-8 | Benzenamine, 2-methyl-5-nitro- |
| Parathion | 56-38-2 | Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester |
| Polychlorinated biphenyls; PCBs | See footnote 4 | 1,1'-Biphenyl, chloro derivatives |
| Polychlorinated dibenzo-p-dioxins; PCDDs | See footnote 5 | Dibenzo[b,e][1,4]dioxin, chloro derivatives |
| Polychlorinated dibenzofurans; PCDFs | See footnote 6 | Dibenzofuran, chloro derivatives |
| Pentachlorobenzene | 608-93-5 | Benzene, pentachloro- |
| Pentachloroethane | 76-01-7 | Ethane, pentachloro- |
| Pentachloronitrobenzene | 82-68-8 | Benzene, pentachloronitro- |
| Pentachlorophenol | 87-86-5 | Phenol, pentachloro- |
| Phenacetin | 62-44-2 | Acetamide, N-(4-ethoxyphenyl) |
| Phenanthrene | 85-01-8 | Phenanthrene |
| Phenol | 108-95-2 | Phenol |
| p-Phenylenediamine | 106-50-3 | 1,4-Benzenediamine |
| Phorate | 298-02-2 | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester |
| 2-Picoline | 109-06-8 | Pyridine, 2-methyl- |
| Pronamide | 23950-58-5 | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)- |

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| Propionitrile; Ethyl cyanide | 107-12-0 | Propanenitrile |
| Pyrene | 129-00-0 | Pyrene |
| Pyridine | 110-86-1 | Pyridine |
| Safrole | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| Selenium | (Total) | Selenium |
| Silver | (Total) | Silver |
| Silvex; 2,4,5-TP | 93-72-1 | Propanoic acid, 2-(2,4,5- trichlorophenoxy)- |
| Styrene | 100-42-5 | Benzene, ethenyl- |
| Sulfide | 18496-25-8 | Sulfide |
| 2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid | 93-76-5 | Acetic acid, (2,4,5-trichlorophenoxy)- |
| 2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo-p-dioxin | 1746-01-6 | Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro- |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| Tetrachloroethylene; Perchloroethylene; Tetrachloroethene | 127-18-4 | Ethene, tetrachloro- |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | Phenol, 2,3,4,6-tetrachloro- |
| Tetraethyl dithiopyrophosphate; Sulfotep | 3689-24-5 | Thiodiphosphoric acid $[(\text{HO})_2\text{P}(\text{S})_2\text{O}]_2$, tetraethyl ester |
| Thallium | (Total) | Thallium |
| Tin | (Total) | Tin |
| Toluene | 108-88-3 | Benzene, methyl- |
| o-Toluidine | 95-53-4 | Benzenamine, 2-methyl- |
| Toxaphene | 8001-35-2 | Toxaphene |
| 1,2,4-Trichlorobenzene | 120-82-1 | Benzene, 1,2,4-trichloro- |
| 1,1,1-Trichloroethane; Methylchloroform | 71-55-6 | Ethane, 1,1,1-trichloro- |
| 1,1,2-Trichloroethane | 79-00-5 | Ethane, 1,1,2-trichloro- |

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| Trichloroethylene; Trichloroethene | 79-01-6 | Ethene, trichloro- |
| Trichlorofluoromethane | 75-69-4 | Methane, trichlorofluoro- |
| 2,4,5-Trichlorophenol | 95-95-4 | Phenol, 2,4,5-trichloro- |
| 2,4,6-Trichlorophenol | 88-06-2 | Phenol, 2,4,6-trichloro- |
| 1,2,3-Trichloropropane | 96-18-4 | Propane, 1,2,3-trichloro- |
| O,O,O-Triethyl phosphorothioate | 126-68-1 | Phosphorothioic acid, O,O,O-triethyl ester |
| sym-Trinitrobenzene | 99-35-4 | Benzene, 1,3,5-trinitro- |
| Vanadium | (Total) | Vanadium |
| Vinyl acetate | 108-05-4 | Acetic acid, ethenyl ester |
| Vinyl chloride | 75-01-4 | Ethene, chloro- |
| Xylene (total) | 1330-20-7 | Benzene, dimethyl- |
| Zinc | (Total) | Zinc |

FOOTNOTES:

(1) The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

(2) Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

(3) Chemical Abstracts Service registry number. Where “Total” is entered, all species in the ground water that contain this element are included.

(4) CAS index names are those used in the 9th Cumulative Index.

(5) Suggested methods refer to analytical procedure numbers used in the EPA publication, SW-846, “Test Methods for Evaluating Solid Waste”, Third Edition. Analytical details can be found in SW-846 and in documentation on file at the Agency. The packed column gas chromatography methods 8010, 8020, 8030, 8040, 8060, 8080, 8090, 8110, 8120, 8140, 8150, 8240, and 8250 were promulgated methods through Update IIB of SW-846 and, **as of Update III, the Agency has replaced these methods with “capillary column GC methods”, as the suggested methods.**

(6) Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

(7) Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

(8) This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.

(9) This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.

Section 265.
INTERIM STATUS STANDARDS
FOR OWNERS AND OPERATORS
OF HAZARDOUS WASTE
TREATMENT, STORAGE, AND
DISPOSAL FACILITIES

Subsection A — General

- § 265.1 Purpose, scope, and applicability
- § 265.2 —265.3 [Reserved]
- § 265.4 Imminent hazard action

Subsection B — General Facility Standards

- § 265.10 Applicability
- § 265.11 Identification number
- § 265.12 Required notices
- § 265.13 General waste analysis
- § 265.14 Security
- § 265.15 General inspection requirements
- § 265.16 Personnel training
- § 265.17 General requirements for ignitable, reactive, or incompatible wastes
- § 265.18 Location standards
- § 265.19 Construction quality assurance program

Subsection C — Preparedness and Prevention

- § 265.30 Applicability
- § 265.31 Maintenance and operation of facility
- § 265.32 Required equipment
- § 265.33 Testing and maintenance of equipment
- § 265.34 Access to communications or alarm system
- § 265.35 Required aisle space
- § 265.36 [Reserved]
- § 265.37 Arrangements with local authorities

Subsection D — Contingency Plan and Emergency Procedures

- § 265.50 Applicability
- § 265.51 Purpose and implementation of contingency plan
- § 265.52 Content of contingency plan
- § 265.53 Copies of contingency plan
- § 265.54 Amendment of contingency plan
- § 265.55 Emergency coordinator
- § 265.56 Emergency procedures

Subsection E — Manifest System, Recordkeeping, and Reporting

- § 265.70 Applicability
- § 265.71 Use of manifest system
- § 265.72 Manifest discrepancies
- § 265.73 Operating record

§ 265.74 Availability, retention, and disposition of records

§ 265.75 Annual Report

§ 265.76 Unmanifested waste report

§ 265.77 Additional reports

Subsection F — Ground-Water Monitoring

§ 265.90 Applicability

§ 265.91 Ground-water monitoring system

§ 265.92 Sampling and analysis

§ 265.93 Preparation, evaluation, and response

§ 265.94 Recordkeeping and reporting

Subsection G — Closure and Post-Closure

§ 265.110 Applicability

§ 265.111 Closure performance standard

§ 265.112 Closure plan; amendment of plan

§ 265.113 Closure; time allowed for closure

§ 265.114 Disposal or decontamination of equipment, structures and soils

§ 265.115 Certification of closure

§ 265.116 Survey plat

§ 265.117 Post-closure care and use of property

§ 265.118 Post-closure plan; amendment of plan

§ 265.119 Post-closure notices

§ 265.120 Certification of completion of post-closure care

§ 265.121 Post-closure requirements for facilities that obtain enforceable documents in lieu of post-closure permits.

Subsection H — Financial Requirements

§ 265.140 Applicability

§ 265.141 Definitions of terms as used in this subpart

§ 265.142 Cost estimate for closure

§ 265.143 Financial assurance for closure

§ 265.144 Cost estimate for post-closure care

§ 265.145 Financial assurance for post-closure care

§ 265.146 Use of a mechanism for financial assurance of both closure and post-closure care

§ 265.147 Liability requirements

§ 265.148 Incapacity of owners or operators, Guarantors, or financial institutions

§ 265.149 Use of State-required mechanisms

§ 265.150 State assumption of responsibility

Subsection I — Use and Management of Containers

§ 265.170 Applicability

§ 265.171 Condition of containers

§ 265.172 Compatibility of waste with container

§ 265.173 Management of containers

§ 265.174 Inspections

§ 265.175 [Reserved]

§ 265.176 Special requirements for ignitable or reactive waste

§ 265.177 Special requirements for incompatible wastes

§ 265.178 Air Emission Standards

Subsection J — Tank Systems

§ 265.190 Applicability

§ 265.191 Assessment of existing tank system's integrity

§ 265.192 Design and installation of new tank systems or components

§ 265.193 Containment and detection of releases

§ 265.194 General operating requirements

§ 265.195 Inspections

§ 265.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems

§ 265.197 Closure and post-closure care

§ 265.198 Special requirements for ignitable or reactive wastes

§ 265.199 Special requirements for incompatible wastes

§ 265.200 Waste analysis and trial tests

§ 265.201 Special requirements for generators of between 100 and 1,000 kg/mo that accumulate hazardous waste in tanks

§ 265.202 Air Emission Standards

Subsection K — Surface Impoundments

§ 265.220 Applicability

§ 265.221 Design and operating requirements

§ 265.222 Action leakage rate

§ 265.223 Response actions

§ 265.224 Containment system

§ 265.225 Waste analysis and trial tests

§ 265.226 Monitoring and inspections

§ 265.227 [Reserved]

§ 265.228 Closure and post-closure care

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- § 265.1100 Applicability
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- § 265.1200 Applicability.
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- Appendix I — Recordkeeping Instructions
- Appendix II — [Reserved]
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Subsection A -- General

§ 265.1 Purpose, scope, and applicability

(a) The purpose of this Section is to establish minimum national standards that define the acceptable management of hazardous waste during the period of interim status and until

certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled.

(b) Except as provided in § 265.1080(b), the standards of this Section, and of §§ 264.552, 264.553, and 264.554, apply to owners and operators of facilities that treat, store or dispose of hazardous waste who have fully complied with the requirements for interim status under section 3005(e) of RCRA and § 270.10 of this rule until either a permit is issued under section 3005 of RCRA or until applicable Section 265 closure and post-closure responsibilities are fulfilled, and to those owners and operators of facilities in existence on November 19, 1980 who have failed to provide timely notification as required by section 3010(a) of RCRA and/or failed to file part A of the permit application as required by § 270.10 (e) and (g). These standards apply to all treatment, storage and disposal of hazardous waste at these facilities after the effective date of these rules, except as specifically provided otherwise in this Section or Section 261 of this rule.

[Comment: As stated in section 3005(a) of RCRA, after the effective date of s under that section (i.e., 270 and 124 of this rule), the treatment, storage and disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility that meets certain conditions, until final administrative disposition of the owner's and operator's permit application is made.]

(c) The requirements of this Section do not apply to:

(1) A person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the federal Marine Protection, Research, and Sanctuaries Act;

[Comment: These Section 265 rules do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in paragraph (b) of this section.]

(2) [Reserved]

(3) The owner or operator of a POTW which treats, stores, or disposes of hazardous waste;

[Comment: The owner or operator of a facility under paragraphs (c)(1) through (3) of this section is subject to the requirements of Section 264 this rule to the extent they are included in a permit by rule granted to such a person under 40 CFR part 122, or are required by 40 CFR 144.14.]

(4) [Reserved]

(5) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from rule under this Section by § 262.14 of this rule;

(6) The owner and operator of a facility managing recyclable materials described in § 261.6 (a) (2), (3) and (4) of this rule (except to the extent that requirements of this Section are referred to in Section 279 or Subsections C, F, G or H of Section 266 of this rule).

(7) A generator accumulating waste on-site in compliance with applicable conditions for exemption in §§ 262.14 through 262.17 and subsections K and L of section 262 of this rule, except to the extent the requirements of this section are included in those sections and subsections;

(8) A farmer disposing of waste pesticides from his own use in compliance with § 262.70 of this rule; or

(9) The owner or operator of a totally enclosed treatment facility, as defined in § 260.10.

(10) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in § 260.10 of this rule, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in § 268.40 of this Rule, Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in § 265.17(b).

(11)(i) Except as provided in paragraph (c)(11)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of a hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(D) An immediate threat to human health, public safety, property, or the environment, from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosives or munitions emergency response specialist as defined in § 260.10.

(ii) An owner or operator of a facility otherwise regulated by this Section must comply with all applicable requirements of Subsections C and D.

(iii) Any person who is covered by paragraph (c)(11)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this Section, 40 CFR parts 122 through 124, and Rule No. 8 for those activities.

(iv) In the case of an explosives or munitions emergency response, if a Federal, State, Tribal or local official acting within the scope of his or her official responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have EPA identification numbers and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition.

(12) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of Section 262.30 at a transfer facility for a period of ten days or less.

(13) The addition of absorbent material to waste in a container (as defined in § 260.10 of this rule) or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is first placed in the containers; and §§ 265.17(b), 265.171, and 265.172 are complied with.

(14) Universal waste handlers and universal waste transporters (as defined in § 260.10) handling the wastes listed below. These handlers are subject to rule under § 273, when handling the below listed universal wastes.

(i) Batteries as described in § 273.2;

(ii) Pesticides as described in § 273.3 of this rule;

(iii) Mercury-containing devices as described in § 273.4 of this rule;

(iv) Lamps as described in § 273.5 of this rule; and

(v) *Consumer electronic items as described in § 273.6.*

(d) The following hazardous wastes must not be managed at facilities subject to rule under this section:

(1) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027 unless:

(i) The wastewater treatment sludge is generated in a surface impoundment as Section of the plant's wastewater treatment system;

- (ii) The waste is stored in tanks or containers;
- (iii) The waste is stored or treated in waste piles that meet the requirements of § 264.250(c) as well as all other applicable requirements of Subsection L of this Section;
- (iv) The waste is burned in incinerators that are certified pursuant to the standards and procedures in § 265.352; or
- (v) The waste is burned in facilities that thermally treat the waste in a device other than an incinerator and that are certified pursuant to the standards and procedures in § 265.383.

(e) The requirements of this Section apply to owners or operators of all facilities which treat, store or dispose of hazardous waste referred to in 40 CFR Section 268 and Section 268 of this Rule, and the 40 CFR Section 268 standards are considered material conditions or requirements of the Section 265 interim status standards.

(f) Section 266.205 of this rule identifies when the requirements of this section apply to the storage of military munitions classified as solid waste under § 266.202 of this rule. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in Sections 260 through 270.

§§ 265.2 -- 265.3 [Reserved]

§ 265.4 Imminent hazard action

Notwithstanding any other provisions of these rules, enforcement actions may be brought pursuant to section 7003 of RCRA or the Arkansas Remedial Action Trust Fund Act (RATFA) (A.C.A. §§ 8-7-501 *et seq.*).

Subsection B -- General Facility Standards

§ 265.10 Applicability

The rules in this Subsection apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.11 Identification number

Every facility owner or operator must apply to the Department for an EPA identification number.

§ 265.12 Required notices

(a) The owner or operator of a facility that is arranging or has arranged to receive hazardous waste subject to section 262, subsection H from a foreign source must submit the following required notices:

- (1) As per § 262.84(b), for imports where the competent authority of the country of export does not require the foreign exporter to submit to it a notification proposing export and obtain consent from EPA and the competent authorities for the countries of transit, such owner or operator of the facility, if acting as the importer, must provide notification of the proposed transboundary movement in English to EPA using the allowable methods

listed in § 262.84(b)(1) at least 60 days before the first shipment is expected to depart the country of export. The notification may cover up to one year of shipments of wastes having similar physical and chemical characteristics, the same United Nations classification, the same RCRA waste codes and OECD waste codes, and being sent from the same foreign exporter.

(2) As per § 262.84(d)(2)(xv), a copy of the movement document bearing all required signatures within three (3) working days of receipt of the shipment to the foreign exporter; to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original of the signed movement document must be maintained at the facility for at least three (3) years. The owner or operator of a facility may satisfy this recordkeeping requirement by retaining electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No owner or operator of a facility may be held liable for the inability to produce the documents for inspection under this section if the owner or operator of a facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system, for which the owner or operator of a facility bears no responsibility.

(3) As per § 262.84(f)(4), if the facility has physical control of the waste and it must be sent to an alternate facility or returned to the country of export, such owner or operator of the facility must inform EPA, using the allowable methods listed in § 262.84(b)(1) of the need to return or arrange alternate management of the shipment.

(4) As per § 262.84(g), such owner or operator shall:

(i) Send copies of the signed and dated confirmation of recovery or disposal, as soon as possible, but no later than thirty days after completing recovery or disposal on the waste in the shipment and no later than one calendar year following receipt of the waste, to the foreign exporter, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

(ii) If the facility performed any of recovery operations R12, R13, or RC16, or disposal operations D13 through D15, or DC17, promptly send copies of the confirmation of recovery or disposal that it receives from the final recovery or disposal facility within one year of shipment delivery to the final recovery or disposal facility that performed one of recovery operations R1 through R11, or RC16, or one of disposal operations D1 through D12, or DC15 to DC16, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The recovery and disposal operations in this paragraph are defined in § 262.81.

(b) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this Section and Section 270 of this rule. (Also

see § 270.72 of this rule.)

[Comment: An owner's or operator's failure to notify the new owner or operator of the requirements of this Section in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.]

§ 265.13 General waste analysis

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under § 265.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this Section and Section 268 of this rule. *As a minimum, this analysis shall include a detailed waste characterization by a commercial facility for at least 10% of the waste processed for each large quantity generator shipping wastes to the facility for treatment, storage, or disposal.*

(2) The analysis may include data developed under Section 261 of this rule, and existing published or documented data on the hazardous waste or on waste generated from similar processes.

[Comment: For example, the facility's records of analyses performed on the waste before the effective date of these rules, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by paragraph (a)(1) of this section, except as otherwise specified in § 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes or non-hazardous wastes, if applicable, under § 265.113(d) has changed; and

(ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) The parameters for which each hazardous waste, or non-hazardous waste if applicable under § 265.113(d), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section);

(2) The test methods which will be used to test for these parameters;

(3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods described in Appendix I of Section 261 of this rule;
or

(ii) An equivalent sampling method.

[Comment: See § 260.20(c) of this rule for related discussion.]

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(5) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 265.200, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034(d), 265.1063(d), and 268.7 of this rule.

(7) For surface impoundments exempted from land disposal restrictions under § 268.4(a) of this rule, the procedures and schedule for:

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under 40 CFR 260.22 or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of Section 268, Subsection D; or

(B) Where no treatment standards have been established;

(1) Such residues are prohibited from land disposal under § 268.32 or RCRA section 3004(d); or

(2) Such residues are prohibited from land disposal under § 268.33(f).

(8) For owners and operators seeking an exemption to the air emission standards of Subsection CC of this Section in accordance with § 265.1083—

(i) If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.

(ii) If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(3) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

§ 265.14 Security

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for

the unauthorized entry, of persons or livestock onto the active portion of his facility, unless:

(1) Physical contact with the waste, structures, or equipment with the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility, and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this Section.

(b) Unless exempt under paragraphs (a)(1) and (2) of this section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Comment: The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (2) of this section.]

(c) Unless exempt under paragraphs (a)(1) and (a)(2) of this section, a sign with the legend, “*Danger — Unauthorized Personnel Keep Out,*” must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than “*Danger — Unauthorized Personnel Keep Out*” may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[Comment: See § 265.117(b) for discussion of security requirements at disposal facilities during the post-closure care period.]

§ 265.15 General Inspection requirements

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing — or may lead to: (1) Release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, the frequency should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies called for in Sections 265.174, 265.193, 265.195, 265.226, 265.260, 265.278, 265.304, 265.347, 265.377, 265.403, 265.1033, 265.1052, 265.1053, 265.1058, and 265.1084 through 265.1090, where applicable.

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

§ 265.16 Personnel training

(a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this Section. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

- (i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- (ii) Key parameters for automatic waste feed cut-off systems;
- (iii) Communications or alarm systems;
- (iv) Response to fires or explosions;
- (v) Response to ground-water contamination incidents; and
- (vi) Shutdown of operations.

(4) For facility employees that receive emergency response training pursuant to Occupational Safety and Health Administration (OSHA) rules 29 CFR 1910.120(p)(8) and 1910.120(q), the facility is not required to provide separate emergency response training pursuant to this section, provided that the overall facility training meets all the requirements

of this section.

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the effective date of these rules or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these rule must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this Section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

(f) *Certification of Hazardous Waste Facility Operators. In addition to the requirements of §§ 265.15, 265.16, and 265.55, the following provisions shall be complied with:*

(1) No commercial hazardous waste management facility shall be caused or permitted to operate unless at least one person certified by the Department in accordance with the provisions of subsection (2) below, is on duty, or on 15 minutes call, at all times the facility is being operated. Depending upon the size and complexity of the facility, the Department may require, as a condition of permit, one or more certified operators to be on duty at all times the facility is in operation.

(2) No person shall be certified by the Department at being qualified to serve as an operator of a commercial hazardous waste management facility unless the person is found to have the following qualifications:

(i) Is physically capable of performing all tasks reasonably expected of supervisory personnel;

(ii) Has a baccalaureate degree in engineering, physical science, health sciences, or related disciplines or four years of significant demonstrated experience in such fields;

(iii) Has at least four additional years experience in management, engineering, or in conducting chemical/physical analysis;

(iv) Has a working familiarity with the principles and requirements relative to industrial hygiene, worker safety, emergency procedures and environmental protection as such principles and requirements relate to the nature of the hazardous waste

managed at the facility in which said person is to have, or does have, supervisory responsibility and as such principles and requirements relate to the type storage, treatment and/or disposal in such facility;

(v) Has a basic knowledge of the principles of operation and standard operating procedures for all equipment used in the facility in which said person is to have, or has, supervisory responsibility; and

(vi) Is a citizen of the United States, of good moral character with no prior conviction of a felony or a crime of moral turpitude.

(3) No employee of a hazardous waste management facility shall be assigned the duties of transferring, handling, sorting, mixing, treating or disposing of hazardous waste unless that employee meets the requirements set out in § 264.16 (a), (b) and (c).

(4) No employee of a hazardous waste management facility shall be assigned the duties of transferring, handling, sorting, mixing, treating or disposing of hazardous waste unless that employee has demonstrated his/her capabilities of:

(i) Reading and comprehending label instructions, operational procedures, contingency plans and regulatory directives;

(ii) Understanding the basic nature of the materials which he/she is assigned to transfer, handle, sort, mix, treat or dispose relative to the material's reactivity, toxicity, explosiveness and flammability; and

(iii) Operating all equipment which he is assigned to operate, including personal safety and emergency equipment.

(5) The owner or operator of a hazardous waste management facility must maintain the records required in § 264.16(d).

(6) Owners and/or operators of commercial hazardous waste management facilities shall:

(i) Maintain complete updated records of all workers assigned to a specific job including name, address, date of starting specific job and date of termination of specific job;

(ii) Maintain a complete previous employment history and a complete job mobility history within the facility kept for each employee;

(iii) Have their personnel trained in contingency procedures as prescribed in the facility's contingency plan, which plan has been submitted and approved pursuant to this Rule;

(iv) Have their personnel take part in a semiannual review and update of their initial training in contingency procedures and other hazardous waste management procedures relevant to those operations at which they are employed; and

(v) Have each of their personnel undergo an annual health physical and said personnel's spouses shall be offered an annual health physical, the specifics of which are deemed appropriate by the Department, including health histories, reproductive history and health histories of all offspring, with records of each of these physicals available to the Department upon request with the written consent of the individual. Consent will be given on a waiver form approved by the Department written in such a fashion as to allow dissemination of information to the Department or to authorized representatives designated in writing by the Department.

(7) The owner or operator of a hazardous waste management facility shall promptly modify the training required of its employees whenever required to do so upon the direction of the

Department or whenever modification in training is required as a condition of permit; provided, however, that preliminary training, approved by the Department, will have been completed prior to commencement of operation of a new hazardous waste management facility or prior to commencement of an operation in an existing facility for which a permit has been issued or modified.

§ 265.17 General requirements for ignitable, reactive, or incompatible wastes

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. “No Smoking” signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of this Section, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, must be conducted so that it does not:

- (1) Generate extreme heat or pressure, fire or explosion, or violent reaction;
- (2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- (3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- (4) Damage the structural integrity of the device or facility containing the waste; or
- (5) Through other like means threaten human health or the environment.

§ 265.18 Location standards

The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave is prohibited.

§ 265.19 Construction quality assurance program

(a) CQA program. (1) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with §§ 265.221(a), 265.254, and 265.301(a). The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer who is an *Arkansas-registered professional engineer*.

(2) The CQA program must address the following physical components, where applicable:

- (i) Foundations;
- (ii) Dikes;
- (iii) Low-permeability soil liners;
- (iv) Geomembranes (flexible membrane liners);
- (v) Leachate collection and removal systems and leak detection systems; and
- (vi) Final cover systems.

(b) Written CQA plan. Before construction begins on a unit subject to the CQA program under paragraph (a) of this section, the owner or operator must develop a written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:

- (1) Identification of applicable units, and a description of how they will be constructed.
- (2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.
- (3) A description of inspection and sampling activities for all unit components identified in paragraph (a)(2) of this section, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover: Sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under § 265.73.

(c) Contents of program. (1) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

- (i) Structural stability and integrity of all components of the unit identified in paragraph (a)(2) of this section;
- (ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;
- (iii) Conformity of all materials used with design and other material specifications under §§ 264.221, 264.251, and 264.301 of this rule.

(2) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full-scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of §§ 264.221(c)(1), 264.251(c)(1), and 264.301(c)(1) of this rule in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The test fill requirement is waived where data are sufficient to show that a constructed soil liner meets the hydraulic conductivity requirements of §§ 264.221(c)(1), 264.251(c)(1), and 264.301(c)(1) of this rule in the field.

(d) Certification. The owner or operator of units subject to § 265.19 must submit to the Director by certified mail or hand delivery, at least 30 days prior to receiving waste, a certification signed by the CQA officer that the CQA plan has been successfully carried out and that the unit meets the requirements of §§ 265.221(a), 265.254, or 265.301(a). The owner or operator may receive waste in the unit after 30 days from the Director's receipt of the CQA certification unless the Director determines in writing that the construction is not acceptable, or extends the review period for a maximum of 30 more days, or seeks additional information from the owner or operator during this period. Documentation supporting the CQA officer's certification must be furnished to the Director upon request.

Subsection C -- Preparedness and Prevention

§ 265.30 Applicability

The rule in this Subsection apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.31 Maintenance and operation of facility

Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

§ 265.32 Required equipment

All facilities must be equipped with the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

- (a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
- (b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;
- (c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and
- (d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

§ 265.33 Testing and maintenance of equipment

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

§ 265.34 Access to communications or alarm system

- (a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under § 265.32.
- (b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required under § 265.32.

§ 265.35 Required aisle space

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of

facility operation in an emergency, unless aisle space is not needed for any of these purposes.

§ 265.36 [Reserved]

§ 265.37 Arrangements with local authorities

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subsection D – Contingency Plan and Emergency Procedures

§ 265.50 Applicability

The rules in this Subsection apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.51 Purpose and implementation of contingency plan

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

§ 265.52 Content of contingency plan

(a) The contingency plan must describe the actions facility personnel must take to comply with §§ 265.51 and 265.56 in response to fires, explosions, or any unplanned sudden or non-sudden

release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR part 112, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Section. The owner or operator may develop one contingency plan which meets all regulatory requirements. EPA and the Department recommend that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan"). When modifications are made to non-RCRA provisions in an integrated contingency plan, the changes do not trigger the need for a RCRA permit modification.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to § 265.37.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see § 265.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

§ 265.53 Copies of contingency plan

A copy of the contingency plan and all revisions to the plan must be:

- (a) Maintained at the facility; and
- (b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

§ 265.54 Amendment of contingency plan

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

- (a) Applicable rules are revised;
- (b) The plan fails in an emergency;
- (c) The facility changes — in its design, construction, operation, maintenance, or other circumstances — in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
- (d) The list of emergency coordinators changes; or

- (e) The list of emergency equipment changes.

§ 265.55 Emergency coordinator

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[Comment: The emergency coordinator's responsibilities are more fully spelled out in § 265.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]

§ 265.56 Emergency procedures

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

- (1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and
- (2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

- (1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and
- (2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:
 - (i) Name and telephone number of reporter;
 - (ii) Name and address of facility;
 - (iii) Time and type of incident (e.g., release, fire);
 - (iv) Name and quantity of material(s) involved, to the extent known;
 - (v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[Comment: Unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this rule, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Sections 262, 263, and 265 of this rule.]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Director. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

Subsection E – Manifest System, Recordkeeping, and Reporting

§ 265.70 Applicability

(a) The rules in this subsection apply to owners and operators of both on-site and off-site facilities, except as § 265.1 provides otherwise. Sections 265.71, 265.72, and 265.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, nor to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements under § 266.203(a) of this rule.

(b) The revised Manifest form and procedures in 40 CFR and Section 260.10, 261.7, 265.70, 265.71, 265.72, and 265.76 of this Rule, shall not apply until September 5, 2006. The Manifest form and procedures in 40 CFR 260.10, 261.7, 265.70, 265.71, 265.72, and 265.76, contained in

the 40 CFR, parts 260 to 265, edition revised as of July 1, 2004, shall be applicable until September 5, 2006.

§ 265.71 Use of manifest system

(a)(1) If a facility receives hazardous waste accompanied by a manifest, the owner, operator or his/her agent must sign and date the manifest as indicated in paragraph (a)(2) to certify that the hazardous waste covered by the manifest was received, that the hazardous waste was received except as noted in the discrepancy space of the manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space.

(2) If a facility receives a hazardous waste shipment accompanied by a manifest, the owner, operator or his/her agent must:

- (i) Sign and date each copy of the manifest;
 - (ii) Note any discrepancies (as defined in § 264.72(a)) on each copy of the manifest;
 - (iii) Immediately give the transporter at least one copy of the manifest;
 - (iv) Within 30 days of delivery, send a copy (Page 2) of the manifest to the generator;
- and

(v) Paper manifest submission requirements are:

(A) Options for compliance on June 30, 2108. Beginning on June 30, 2018, send the top copy (Page 1) of any paper manifest and any paper continuation sheet to the EPA's e-Manifest system for purposes of data entry and processing, or in lieu of submitting the paper copy to EPA, the owner or operator may transmit to the EPA system an image file of Page 1 of the manifest and any continuation sheet, or both a data file and image file corresponding to Page 1 of the manifest and any continuation sheet, within 30 days of the date of delivery. Submissions of copies to the e-Manifest system shall be made at the mailing address or electronic mail/submission address specified at the e-Manifest program website's directory of services. Beginning on June 30, 2021, EPA will not accept mailed paper manifests from facilities for processing in e-Manifest.

(B) *Options for compliance on June 30, 2021.* Beginning on June 30, 2021, the requirement to submit the top copy (Page 1) of the paper manifest and any paper continuation sheet to the e-Manifest system for purposes of data entry and processing may be met by the owner or operator only by transmitting to the EPA system an image file of Page 1 of the manifest and any continuation sheet, or by transmitting to the EPA system both a data file and the image file corresponding to Page 1 of the manifest and any continuation sheet, within 30 days of the date of delivery. Submissions of copies to the e-Manifest system shall be made to the electronic mail/submission address specified at the e-Manifest program website's directory of services; and

(vi) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(3) The owner or operator of a facility that receives hazardous waste subject to section 262, subsection H from a foreign source must:

(i) Additionally list the relevant consent number from consent documentation supplied by EPA to the facility for each waste listed on the manifest, matched to the relevant list number for the waste from block 9b. If additional space is needed, the owner or operator

should use a Continuation Sheet(s) (EPA Form 8700-22A); and

(ii) Send a copy of the manifest to EPA using the addresses listed in § 262.82(e) within thirty (30) days of delivery until the facility can submit such a copy to the e-Manifest system per paragraph (a)(2)(v) of this section.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in § 265.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper;

[Comment: The Department does not intend that the owner or operator of a facility whose procedures under § 265.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 265.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; or a signed and dated copy of the shipping paper (if the manifest has not been received within 30 days after delivery) to the generator; and

[Comment: Section 262.23(c) of this rule requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).]

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of Section 262 of this rule. The provisions of §§ 262.15, 262.16, and 262.17 of this rule are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of §§ 262.15, 262.16, and 262.17 only apply to owners or operators who are shipping hazardous waste which they generated at that facility or operating as a large quantity generator consolidating hazardous waste from very small quantity generators under § 262.17(f).

(d) As per § 262.84(d)(2)(xv), within three (3) working days of the receipt of a shipment subject to section 262, subsection H, the owner or operator of a facility must provide a copy of the movement document bearing all required signatures to the foreign exporter; to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original copy of the movement document must be maintained at the facility for at least three (3) years from the date of signature. The owner or operator of a facility may satisfy this recordkeeping requirement by retaining electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and

production if requested by any EPA or authorized state inspector. No owner or operator of a facility may be held liable for the inability to produce the documents for inspection under this section if the owner or operator of a facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system, for which the owner or operator of a facility bears no responsibility.

(e) Treatment, storage, and disposal facilities shall notify this Department and the Arkansas Highway Police of any unpermitted transporters arriving at their gates or attempting to deliver hazardous waste to their facility.

(f) A facility must determine whether the consignment state for a shipment regulates any additional wastes (beyond those regulated Federally) as hazardous wastes under its state hazardous waste program. Facilities must also determine whether the consignment state or generator state requires the facility to submit any copies of the manifest to these states.

(g) Legal equivalence to paper manifests. Electronic manifests that are obtained, completed, and transmitted in accordance with § 262.20(a)(3), and used in accordance with this section in lieu of the paper manifest form are the legal equivalent of paper manifest forms bearing handwritten signatures, and satisfy for all purposes any requirement in these rules to obtain, complete, sign, provide, use, or retain a manifest.

(1) Any requirement in these rules for the owner or operator of a facility to sign a manifest or manifest certification by hand, or to obtain a handwritten signature, is satisfied by signing with or obtaining a valid and enforceable electronic signature within the meaning of §262.25(a).

(2) Any requirement in these rules to give, provide, send, forward, or to return to another person a copy of the manifest is satisfied when a copy of an electronic manifest is transmitted to the other person.

(3) Any requirement in these rules for a manifest to accompany a hazardous waste shipment is satisfied when a copy of an electronic manifest is accessible during transportation and forwarded to the person or persons who are scheduled to receive delivery of the waste shipment.

(4) Any requirement in these rules for an owner or operator to keep or retain a copy of each manifest is satisfied by the retention of the facility's electronic manifest copies in its account on the e-Manifest system, provided that such copies are readily available for viewing and production if requested by any EPA or authorized state inspector.

(5) No owner or operator may be held liable for the inability to produce an electronic manifest for inspection under this section if the owner or operator can demonstrate that the inability to produce the electronic manifest is due exclusively to a technical difficulty with the electronic manifest system for which the owner or operator bears no responsibility.

(h) An owner or operator may participate in the electronic manifest system either by accessing the electronic manifest system from the owner's or operator's electronic equipment, or by accessing the electronic manifest system from portable equipment brought to the owner's or operator's site by the transporter who delivers the waste shipment to the facility.

(i) Special procedures applicable to replacement manifests. If a facility receives hazardous waste that is accompanied by a paper replacement manifest for a manifest that was originated electronically, the following procedures apply to the delivery of the hazardous waste by the final transporter:

(1) Upon delivery of the hazardous waste to the designated facility, the owner or operator must sign and date each copy of the paper replacement manifest by hand in Item 20 (Designated Facility Certification of Receipt) and note any discrepancies in Item 18 (Discrepancy Indication Space) of the paper replacement manifest,

(2) The owner or operator of the facility must give back to the final transporter one copy of the paper replacement manifest,

(3) Within 30 days of delivery of the waste to the designated facility, the owner or operator of the facility must send one signed and dated copy of the paper replacement manifest to the generator, and send an additional signed and dated copy of the paper replacement manifest to the electronic manifest system, and

(4) The owner or operator of the facility must retain at the facility one copy of the paper replacement manifest for at least three years from the date of delivery.

(j) Special procedures applicable to electronic signature methods undergoing tests. If an owner or operator using an electronic manifest signs this manifest electronically using an electronic signature method which is undergoing pilot or demonstration tests aimed at demonstrating the practicality or legal dependability of the signature method, then the owner or operator shall also sign with an ink signature the facility's certification of receipt or discrepancies on the printed copy of the manifest provided by the transporter. Upon executing its ink signature on this printed copy, the owner or operator shall retain this original copy among its records for at least 3 years from the date of delivery of the waste.

(k) Imposition of user fee for electronic manifest use.

(1) As prescribed in § 265.1311, and determined in § 265.1312, an owner or operator who is a user of the electronic manifest system shall be assessed a user fee by EPA for the submission and processing of each electronic and paper manifest. EPA shall update the schedule of user fees and publish them to the user community, as provided in § 265.1313.

(2) An owner or operator subject to user fees under this section shall make user fee payments in accordance with the requirements of § 265.1314, subject to the informal fee dispute resolution process of § 265.1316, and subject to the sanctions for delinquent payments under § 265.1315.

(l) Electronic Manifest Signatures. Electronic manifest signatures shall meet the criteria described in § 262.25(a).

(m) Post-receipt manifest data corrections. After facilities have certified to the receipt of hazardous wastes by signing Item 20 of the manifest, any post-receipt data corrections may be submitted at any time by any interested person (e.g., waste handler) shown on the manifest.

(1) Interested persons must make all corrections to manifest data by electronic submission, either by directly entering corrected data to the web based service provided in e-Manifest for such corrections, or by an upload of a data file containing data corrections relating to one or more previously submitted manifests.

(2) Each correction submission must include the following information:

(i) The Manifest Tracking Number and date of receipt by the facility of the original manifest(s) for which data are being corrected;

(ii) The item number(s) of the original manifest that is the subject of the submitted correction(s); and

(iii) For each item number with corrected data, the data previously entered and the corresponding data as corrected by the correction submission.

(3) Each correction submission shall include a statement that the person submitting the corrections certifies that to the best of his or her knowledge or belief, the corrections that are included in the submission will cause the information reported about the previously received hazardous wastes to be true, accurate, and complete:

(i) The certification statement must be executed with a valid electronic signature; and

(ii) A batch upload of data corrections may be submitted under one certification statement.

(4) Upon receipt by the system of any correction submission, other interested persons shown on the manifest will be provided electronic notice of the submitter's corrections.

(5) Other interested persons shown on the manifest may respond to the submitter's corrections with comments to the submitter, or by submitting another correction to the system, certified by the respondent as specified in paragraph (m)(3) of this section, and with notice of the corrections to other interested persons shown on the manifest.

§ 265.72 Manifest discrepancies

(a) Manifest discrepancies are:

(1) Significant differences (as defined by paragraph (b) of this section) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives;

(2) Rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept; or

(3) Container residues, which are residues that exceed the quantity limits for "empty" containers set forth in Section 261.7(b) of this Rule.

(b) Significant differences in quantity are: For bulk waste, variations greater than 10 percent in weight; for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant differences in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(c) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Director a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

(d)(1) Upon rejecting waste or identifying a container residue that exceeds the quantity limits for "empty" containers set forth in Section 261.7(b) of this Rule, the facility must consult with generator prior to forwarding the waste to another facility that can manage the waste. If it is impossible to locate an alternative facility that can receive the waste, the facility may return the rejected waste or residue to the generator. The facility must send the waste to the alternative facility or to the generator within 60 days of the rejection or the container residue identification.

(2) While the facility is making arrangements for forwarding rejected wastes or residues to another facility under this section, it must ensure that either the delivering transporter retains custody of the waste, or the facility must provide for secure, temporary custody of the waste, pending delivery of the waste to the first transporter designated on the manifest prepared under paragraph (e) or (f) of this section.

(e) Except as provided in paragraph (e)(7) of this section, for full or partial load rejections and residues that are to be sent off-site to an alternate facility, the facility is required to prepare a new manifest in accordance with § 262.20(a) of this Rule and the following instructions:

(1) Write the generator's U.S. EPA ID number in Item 1 of the new manifest. Write the generator's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator's site address, then write the generator's site address in the designated space in Item 5.

(2) Write the name of the alternate designated facility and the facility's U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment,

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a).

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator's/Officer's Certification to certify, as the offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation, and mail a signed copy of the manifest to the generator identified in Item 5 of the new manifest.

(7) For full load rejections that are made while the transporter remains present at the facility, the facility may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the Alternate Facility space. The facility must retain a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with paragraphs (e)(1), (2), (3), (4), (5), and (6) of this Section.

(f) Except as provided in paragraph (f)(7) of this section, for rejected wastes and residues that must be sent back to the generator, the facility is required to prepare a new manifest in accordance with § 262.20(a) of this Rule and the following instructions:

(1) Write the facility's U.S. EPA ID number in Item 1 of the new manifest. Write the facility's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the facility's site address, then write the facility's site address in the designated space for Item 5 of the new manifest.

(2) Write the name of the initial generator and the generator's U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment,

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a),

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator's/Offeree's Certification to certify, as offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation,

(7) For full load rejections that are made while the transporter remains at the facility, the facility may return the shipment to the generator with the original manifest by completing Item 18b of the manifest and supplying the generator's information in the Alternate Facility space. The facility must retain a copy for its records and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with paragraphs (f)(1), (2), (3), (4), (5), and (6) of this Section.

(8) For full or partial load rejections and container residues contained in non-empty containers that are returned to the generator, the facility must also comply with the exception reporting requirements in § 262.42(a).

(g) If a facility rejects a waste or identifies a container residue that exceeds the quantity limits for "empty" containers set forth in Section 261.7(b) of this Rule after it has signed, dated, and returned a copy of the manifest to the delivering transporter or to the generator, the facility must amend its copy of the manifest to indicate the rejected wastes or residues in the discrepancy space of the amended manifest. The facility must also copy the manifest tracking number from Item 4 of the new manifest to the discrepancy space of the amended manifest, and must re-sign and date the manifest to certify to the information as amended. The facility must retain the amended manifest for at least three years from the date of amendment, and must within 30 days, send a copy of the amended manifest to the transporter and generator that received copies prior to their being amended.

§ 265.73 Operating record

(a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record for three years unless noted below:

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by appendix I to this Section. This information must be maintained in the operating record until closure of the facility;

(2) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest. This information must be maintained in the operating record until closure of the facility;

[Comment: See §§ 265.119, 265.279, and 265.309 for related requirements.]

(3) Records and results of waste analyses and trial tests performed as specified in §§ 265.13, 265.200, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034, 265.1063, 265.1084, 268.4(a), and 268.7 of this rule;

(4) Summary reports and details of all incidents that require implementing the contingency plan as specified in § 265.56(j);

(5) Records and results of inspections as required by § 265.15(d) (except these data need be kept only three years);

[Comment: As required by § 265.94, monitoring data at disposal facilities must be kept throughout the post-closure period.]

(6) Monitoring, testing, or analytical data, and corrective action where required by Subsection F and §§ 265.19, 265.94, 265.191, 265.193, 265.195, 265.224, 265.226, 265.255, 265.260, 265.276, 265.278, 265.280(d)(1), 265.302-265.304, 265.347, 265.377, 265.1034(c)-265.1034(f), 265.1035, 265.1063(d)-265.1063(i), 265.1064, and 265.1083 through 265.1090. Maintain in the operating record for three (3) years, except for records and results pertaining to groundwater monitoring and cleanup, and response action plans for surface impoundments, waste piles, and landfills, which must be maintained in the operating record until closure of the facility.

(7) All closure cost estimates under § 265.142 and, for disposal facilities, all post-closure cost estimates under § 265.144 must be maintained in the operating record until closure of the facility..

(8) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to § 268.5 of this rule, monitoring data required pursuant to a petition under § 268.6 of this rule, or a certification under § 268.8 of this rule, and the applicable notice required by a generator under § 268.7(a) of this rule. All of this information must be maintained in the operating record until closure of the facility.

(9) For an off-site treatment facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(10) For an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(11) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8;

(12) For an on-site land disposal facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8.

(13) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8; and

(14) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8.

(15) Monitoring, testing or analytical data, and corrective action where required by §§ 265.90, 265.93(d)(2), and 265.93(d)(5), and the certification as required by § 265.196(f) must be maintained in the operating record until closure of the facility.

§ 265.74 Availability, retention, and disposition of records

(a) All records, including plans, required under this Section must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of DEQ who is duly designated by the Director.

(b) The retention period for all records required under this Section is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Director.

(c) A copy of records of waste disposal locations and quantities under § 265.73(b)(2) must be submitted to the Director and local land authority upon closure of the facility (see § 265.119).

§ 265.75 Annual Report

The owner or operator of a treatment, storage or disposal facility must prepare and submit a single copy of an Annual Report to the Director not later than March 1, of each year. The Annual Report must be submitted on forms or in an electronic format furnished or approved by the Division and in accordance with the annual instruction booklet provided by the Division. The report must cover facility activities during the previous calendar year and must include, at a minimum, the following information:

- (a) The EPA identification number, name and address of the facility;*
- (b) The calendar year covered by the report;*
- (c) For offsite facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year;*
- (d) For imported shipments, the report must give the name and address of the foreign generator;*
- (e) A description and the quantity of each hazardous waste the facility received during the year. For offsite facilities, this information must be listed by EPA identification number of each generator.*
- (f) The method of treatment, storage, or disposal for each hazardous waste;*
- (g) The most recent closure cost estimate under § 265.142, and, for disposal facilities, the most recent post-closure cost estimate under § 265.144; and*
- (h) For generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.*
- (i) For generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984.*
- (j) A signed certification by the owner or operator of the facility or his authorized representative that the report is true, accurate, and correct.*
- (k) The owner or operator of a land disposal facility must, in addition to the requirements above, submit monitoring data under § 265.94(a)(2) (ii) and (iii), and (b)(2).*
- (l) Commercial hazardous waste management facilities shall submit their Annual Report in an electronic format as prescribed in the annual reporting instructions, or as otherwise coordinated with the Division.*

§ 265.76 Unmanifested waste report

- (a) If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site

source without an accompanying manifest, or without an accompanying shipping paper as described in § 263.20(e)(2) of this rule, and if the waste is not excluded from the manifest requirement by § 261.5 of this rule, then the owner or operator must prepare and submit a single copy of a report to the Director within fifteen (15) days after receiving the waste. The unmanifested waste report must contain the following information:

- (1) The EPA identification number, name, and address of the facility;
- (2) The date the facility received the waste;
- (3) The EPA identification number, name, and address of the generator and the transporter, if available;
- (4) A description and the quantity of each unmanifested hazardous waste the facility received;
- (5) The method of treatment, storage, or disposal for each hazardous waste;
- (6) The certification signed by the owner or operator of the facility or his authorized representative; and
- (7) A brief explanation of why the waste was unmanifested, if known.

[Comment: Where a facility receives unmanifested hazardous wastes, the Division suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Division suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.]

(b) [Reserved.]

§ 265.77 Additional reports

In addition to submitting the annual report and unmanifested waste reports described in §§ 265.75 and 265.76, the owner or operator must also report to the Director:

- (a) Releases, fires, and explosions as specified in § 265.56(j);
- (b) Ground-water contamination and monitoring data as specified in §§ 265.93 and 265.94; and
- (c) Facility closure as specified in § 265.115.
- (d) As otherwise required by Subsections AA, BB, and CC of this Section.

Subsection F -- Groundwater Monitoring

§ 265.90 Applicability

(a) Within one year after the effective date of these rule, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a ground-water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility, except as § 265.1 and paragraph (c) of this section provide otherwise.

(b) Except as paragraphs (c) and (d) of this section provide otherwise, the owner or operator must install, operate, and maintain a ground-water monitoring system which meets the requirements of § 265.91, and must comply with §§ 265.92 through 265.94. This ground-water monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the post-closure care period as well.

(c) All or part of the groundwater monitoring requirements of this Subsection may be waived if

the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:

(1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

- (i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and
- (ii) Unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to ground water); and

(2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

- (i) Saturated zone characteristics (i.e., geologic materials, physical properties, and rate of groundwater flow); and
- (ii) The proximity of the facility to water supply wells or surface water.

(d) If an owner or operator assumes (or knows) that ground-water monitoring of indicator parameters in accordance with §§ 265.91 and 265.92 would show statistically significant increases (or decreases in the case of pH) when evaluated under § 265.93(b), he may install, operate, and maintain an alternate groundwater monitoring system (other than the one described in §§ 265.91 and 265.92). If the owner or operator decides to use an alternate ground-water monitoring system he must:

(1) Within one year after the effective date of these rule, develop a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of § 265.93(d)(3), for an alternate groundwater monitoring system. This plan is to be placed in the facility's operating records and maintained until closure of the facility.

(2) Not later than one year after the effective date of these rule, initiate the determinations specified in § 265.93(d)(4);

(3) Prepare report in accordance with § 265.93(d)(5) and place it in the facility's operating record and maintain it until closure of the facility.

(4) Continue to make the determinations specified in § 265.93(d)(4) on a quarterly basis until final closure of the facility; and

(5) Comply with the recordkeeping and reporting requirements in § 265.94(b).

(e) The groundwater monitoring requirements of this Subsection may be waived with respect to any surface impoundment that

(1) Is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under § 261.22 of this rule or are listed as hazardous wastes in Subsection D of Section 261 of this rule only for this reason, and

(2) contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration must establish, based upon consideration of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment. The demonstration must be in writing and must be certified by a qualified professional.

(f) The Director may replace all or part of the requirements of this subpart applying to a regulated unit (as defined in § 264.90), with alternative requirements developed for groundwater

monitoring set out in an approved closure or post-closure plan or in an enforceable document (as defined in § 270.1(c)(7)), where the Director determines that:

(1) A regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and

(2) It is not necessary to apply the requirements of this subpart because the alternative requirements will protect human health and the environment. The alternative standards for the regulated unit must meet the requirements of § 264.101(a).

§ 265.91 Ground-water monitoring system

(a) A ground-water monitoring system must be capable of yielding ground-water samples for analysis and must consist of:

(1) Monitoring wells (at least one) installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the waste management area. Their number, locations, and depths must be sufficient to yield ground-water samples that are:

(i) Representative of background ground-water quality in the uppermost aquifer near the facility; and

(ii) Not affected by the facility; and

(2) Monitoring wells (at least three) installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(3) The facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location will meet the criteria outlined below. The demonstration must be in writing and kept at the facility. The demonstration must be certified by a qualified ground-water scientist and establish that:

(i) An existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area; and

(ii) The selected alternate downgradient location is as close to the limit of the waste management area as practical; and

(iii) The location ensures detection that, given the alternate location, is as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(iv) Lateral expansion, new, or replacement units are not eligible for an alternate downgradient location under this paragraph.

(b) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(1) In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary (perimeter).

(2) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and the ground water.

§ 265.92 Sampling and analysis

(a) The owner or operator must obtain and analyze samples from the installed ground-water monitoring system. The owner or operator must develop and follow a ground-water sampling and analysis plan. He must keep this plan at the facility. The plan must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures; and
- (4) Chain of custody control.

[Comment: See "Procedures Manual For Ground-water Monitoring At Solid Waste Disposal Facilities," EPA-530/SW-611, August 1977 and "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1979 for discussions of sampling and analysis procedures.]

(b) The owner or operator must determine the concentration or value of the following parameters in ground-water samples in accordance with paragraphs (c) and (d) of this section:

- (1) Parameters characterizing the suitability of the ground water as a drinking water supply, as specified in Appendix III.
- (2) Parameters establishing ground-water quality:
 - (i) Chloride
 - (ii) Iron
 - (iii) Manganese
 - (iv) Phenols
 - (v) Sodium
 - (vi) Sulfate

[Comment: These parameters are to be used as a basis for comparison in the event a ground-water quality assessment is required under § 265.93(d).]

- (3) Parameters used as indicators of ground-water contamination:
 - (i) pH
 - (ii) Specific Conductance
 - (iii) Total Organic Carbon
 - (iv) Total Organic Halogen

(c)(1) For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters specified in paragraph (b) of this section. He must do this quarterly for one year.

(2) For each of the indicator parameters specified in paragraph (b)(3) of this section, at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells

during the first year.

(d) After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

(1) Samples collected to establish ground-water quality must be obtained and analyzed for the parameters specified in paragraph (b)(2) of this section at least annually.

(2) Samples collected to indicate ground-water contamination must be obtained and analyzed for the parameters specified in paragraph (b)(3) of this section at least semi-annually.

(e) Elevation of the ground-water surface at each monitoring well must be determined each time a sample is obtained.

§ 265.93 Preparation, evaluation, and response

(a) Within one year after the effective date of these rules, the owner or operator must prepare an outline of a ground-water quality assessment program. The outline must describe a more comprehensive ground-water monitoring program (than that described in §§ 265.91 and 265.92) capable of determining:

(1) Whether hazardous waste or hazardous waste constituents have entered the ground water;

(2) The rate and extent of migration of hazardous waste or hazardous waste constituents in the ground water; and

(3) The concentrations of hazardous waste or hazardous waste constituents in the ground water.

(b) For each indicator parameter specified in § 265.92(b)(3), the owner or operator must calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with § 265.92(d)(2), and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's t-test at the 0.01 level of significance (see Appendix IV) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(c)(1) If the comparisons for the upgradient wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must submit this information in accordance with § 265.94(a)(2)(ii).

(2) If the comparisons for downgradient wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must then immediately obtain additional ground-water samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(d)(1) If the analyses performed under paragraph (c)(2) of this section confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the Director — within seven days of the date of such confirmation — that the facility may be affecting ground-water quality.

(2) Within 15 days after the notification under paragraph (d)(1) of this section, the owner or operator must develop a specific plan, based on the outline required under paragraph (a) of this section and certified by a qualified geologist or geotechnical engineer, for a ground-water

quality assessment at the facility. This plan must be placed in the facility's operating record and be maintained until closure of the facility.

(3) The plan to be submitted under § 265.90(d)(1) or paragraph (d)(2) of this section must specify:

- (i) The number, location, and depth of wells;
- (ii) Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;
- (iii) Evaluation procedures, including any use of previously-gathered ground-water quality information; and
- (iv) A schedule of implementation.

(4) The owner or operator must implement the ground-water quality assessment plan which satisfies the requirements of paragraph (d)(3) of this section, and, at a minimum, determine:

- (i) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the ground water; and
- (ii) The concentrations of the hazardous waste or hazardous waste constituents in the ground water.

(5) The owner or operator must make his first determination under paragraph (d)(4) of this section as soon as technically feasible, and, prepare a report containing an assessment of the groundwater quality. This report must be placed in the facility operating record and be maintained until closure of the facility.

(6) If the owner or operator determines, based on the results of the first determination under paragraph (d)(4) of this section, that no hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he may reinstate the indicator evaluation program described in § 265.92 and paragraph (b) of this section. If the owner or operator reinstates the indicator evaluation program, he must so notify the Director in the report submitted under paragraph (d)(5) of this section.

(7) If the owner or operator determines, based on the first determination under paragraph (d)(4) of this section, that hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he:

- (i) Must continue to make the determinations required under paragraph (d)(4) of this section on a quarterly basis until final closure of the facility, if the ground-water quality assessment plan was implemented prior to final closure of the facility; or
- (ii) May cease to make the determinations required under paragraph (d)(4) of this section, if the ground-water quality assessment plan was implemented during the post-closure care period.

(e) Notwithstanding any other provision of this Subsection, any ground-water quality assessment to satisfy the requirements of § 265.93(d)(4) which is initiated prior to final closure of the facility must be completed and reported in accordance with § 265.93(d)(5).

(f) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), at least annually the owner or operator must evaluate the data on ground-water surface elevations obtained under § 265.92(e) to determine whether the requirements under § 265.91(a) for locating the monitoring wells continues to be satisfied. If the evaluation shows that § 265.91(a) is no longer satisfied, the owner or operator must immediately modify the number, location, or depth of the monitoring wells to bring the ground-water monitoring system into compliance with this requirement.

§ 265.94 Recordkeeping and reporting

(a) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses required in § 265.92(c) and (d), the associated ground-water surface elevations required in § 265.92(e), and the evaluations required in § 265.93(b) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Report the following ground-water monitoring information to the Director:

(i) During the first year when initial background concentrations are being established for the facility: concentrations or values of the parameters listed in § 265.92(b)(1) for each ground-water monitoring well within 15 days after completing each quarterly analysis. The owner or operator must separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Appendix III.

(ii) Annually: Concentrations or values of the parameters listed in § 265.92(b)(3) for each ground-water monitoring well, along with the required evaluations for these parameters under § 265.93(b). The owner or operator must separately identify any significant differences from initial background found in the upgradient wells, in accordance with § 265.93(c)(1). During the active life of the facility, this information must be submitted no later than March 1 following each calendar year.

(iii) No later than March 1 following each calendar year: Results of the evaluations of ground-water surface elevations under § 265.93(f), and a description of the response to that evaluation, where applicable.

(b) If the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of § 265.93(d)(3), throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Annually, until final closure of the facility, submit to the Director a report containing the results of his or her ground-water quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration of hazardous waste or hazardous waste constituents in the ground water during the reporting period. This information must be submitted no later than March 1 following each calendar year.

Subsection G – Closure and Post-Closure

§ 265.110 Applicability

Except as § 265.1 provides otherwise:

(a) Sections 265.111 through 265.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 265.116 through 265.120 (which concern post-closure care) apply to the owners and operators of:

- (1) All hazardous waste disposal facilities; and
- (2) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in § 265.228 or § 265.258; and
- (3) Tank systems that are required under § 265.197 to meet requirements for landfills.
- (4) Containment buildings that are required under § 265.1102 to meet the requirement for landfills, *and*
- (5) *Open burn/open detonation units where soil and/or groundwater contamination has been identified as a result of operation of the unit.*

(c) Section 265.121 applies to owners and operators of units that are subject to the requirements of § 270.1(c)(7) and are regulated under an enforceable document (as defined in § 270.1(c)(7)).

(d) The Director may replace all or part of the requirements of this subpart and the unit-specific standards in § 265.111(c) applying to a regulated unit (as defined in § 264.90), with alternative requirements for closure set out in an approved closure or post-closure plan, or in an enforceable document (as defined in § 270.1(c)(7)), where the Director determines that:

- (1) A regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release, and
- (2) It is not necessary to apply the closure requirements of this subpart (and/or those referenced herein) because the alternative requirements will protect human health and the environment, and will satisfy the closure performance standard of § 265.111 (a) and (b).

§ 265.111 Closure performance standard

The owner or operator must close the facility in a manner that:

- (a) Minimizes the need for further maintenance, and
- (b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and
- (c) Complies with the closure requirements of this Subsection including, but not limited to, the requirements of §§ 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102.

§ 265.112 Closure plan; amendment of plan

(a) Written plan. By May 19, 1981, or by six months after the effective date of the rule that first subjects a facility to provisions of this section, the owner or operator of a hazardous waste management facility must have a written closure plan. Until final closure is completed and certified in accordance with § 265.115, a copy of the most current plan must be furnished to the Director upon request, including request by mail. In addition, for facilities without approved plans, it must also be provided during site inspections, on the day of inspection, to any officer, employee, or representative of the Division who is duly designated by the Director.

(b) Content of plan. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with § 265.111; and

(2) A description of how final closure of the facility will be conducted in accordance with § 265.112. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of and the type(s) of off-site hazardous waste management unit(s) to be used, if applicable; and

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the partial and final closure periods to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.); and

(7) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under § 265.143 or § 265.145 and whose remaining operating life is less than twenty years, and for facilities without approved closure plans.

(8) For facilities where the Director has applied alternative requirements at regulated unit under §§ 265.90(f), 265.110(d), and/or 265.140(d), either the alternative requirements applying to the regulated unit, or a reference to the enforceable document containing those alternative requirements.

(c) Amendment of plan. The owner or operator may amend the closure plan at any time prior to the notification of partial or final closure of the facility. An owner or operator with an approved closure plan must submit a written request to the Director to authorize a change to the approved closure plan. The written request must include a copy of the amended closure plan for approval by the Director.

(1) The owner or operator must amend the closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the closure plan.

(iv) The owner or operator requests the Director to apply alternative requirements to a regulated unit under §§ 265.90(f), 265.110(d), and/or 265.140(d).

(2) The owner or operator must amend the closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must amend the closure plan no later than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure, but are required to close as landfills in accordance with § 265.310.

(3) An owner or operator with an approved closure plan must submit the modified plan to the Director at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event has occurred during the partial or final closure period, the owner or operator must submit the modified plan no more than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure but are required to close as landfills in accordance with § 265.310. If the amendment to the plan is a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved according to the procedures in § 265.112(d)(4).

(4) The Director may request modifications to the plan under the conditions described in paragraph (c)(1) of this section. An owner or operator with an approved closure plan must submit the modified plan within 60 days of the request from the Director, or within 30 days if the unexpected event occurs during partial or final closure. If the amendment is considered a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved in accordance with the procedures in § 265.112(d)(4).

(d) Notification of partial closure and final closure. (1) The owner or operator must submit the closure plan to the Director at least 180 days prior to the date on which he expects to begin closure of the first surface impoundment, waste pile, land treatment, or landfill unit, or final closure if it involves such a unit, whichever is earlier. The owner or operator must submit the closure plan to the Director at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. The owner or operator must submit the closure plan to the Director at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units. Owners or operators with approved closure plans must notify the Director in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit. Owners or operators with approved closure plans must notify the Director in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. Owners or operators with approved closure plans must notify the Director in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units.

(2) The date when he “expects to begin closure” must be either:

(i) Within 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the Director that the hazardous waste management unit or

facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements, the Director may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of § 265.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the Director that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements, the Director may approve an extension to this one-year limit.

(3) The owner or operator must submit his closure plan to the Director no later than 15 days after:

(i) Termination of interim status except when a permit is issued simultaneously with termination of interim status; or

(ii) Issuance of a judicial decree or final order under section 3008 of RCRA to cease receiving hazardous wastes or close.

(4) The Director will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a closure plan. The Director will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Director will approve, modify, or disapprove the plan within 90 days of its receipt. If the Director does not approve the plan he shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Director will approve or modify this plan in writing within 60 days. If the Director modifies the plan, this modified plan becomes the approved closure plan. The Director must assure that the approved plan is consistent with §§ 265.111 through 265.115 and the applicable requirements of §§ 265.90 et seq., 265.197, 265.228, 12,258, 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(e) Removal of wastes and decontamination or dismantling of equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

§ 265.113 Closure; time allowed for closure

(a) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in

paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, or within 90 days after approval of the closure plan, whichever is later, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Director may approve a longer period if the owner or operator demonstrates that:

(1)(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility, or 180 days after approval of the closure plan, if that is later. The Director may approve an extension to the closure period if the owner or operator demonstrates that:

(1) (i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable interim status requirements.

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows:

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.

(d) The Director may allow an owner or operator to receive non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(1) The owner or operator submits an amended part B application, or a part B application, if

not previously required, and demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The non-hazardous wastes will not be incompatible with any remaining wastes in the unit or with the facility design and operating requirements of the unit or facility under this part; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable interim status requirements; and

(2) The part B application includes an amended waste analysis plan, ground-water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under § 265.112(b)(7), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes; and

(3) The part B application is amended, as necessary and appropriate, to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The part B application and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Director no later than 180 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(j) (2), (3), (4) or (13) must:

(1) Submit with the part B application:

(i) A contingent corrective measures plan; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The Director may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) in hazardous constituents over background levels is detected in accordance with the requirements in Subsection F of this Section, the owner or operator of the unit:

(i) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (e)(1) of this section no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Director to implement corrective measures in less than one year or to cease receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(5) During the period of corrective action, the owner or operator shall provide annual reports to the Director that describe the progress of the corrective action program, compile all ground-water monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

(6) The Director may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (e)(4) of this section, or fails to make substantial progress in implementing corrective action and achieving the facility's background levels.

(7) If the owner or operator fails to implement corrective measures as required in paragraph (e)(4) of this section, or if the Director determines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadline in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Director receives no written comments, the decision will become final five days after the close of the comment period. The Director will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Director receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Director determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Director under paragraphs (e)(7) (iii) and (iv) of this section are not subject to administrative appeal.

§ 265.114 Disposal or decontamination of equipment, structures, and soils

During the partial and final closure periods, all contaminated equipment, structures and soil must be properly disposed of, or decontaminated unless specified otherwise in §§ 265.197, 265.228, 265.258, 265.280, or 265.310. By removing all hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that hazardous waste in accordance with all applicable requirements of Section 261 of this rule.

§ 265.115 Certification of closure

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of completion of final closure, the owner or operator must submit to the Director, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent qualified Arkansas-registered professional engineer. Documentation supporting the *independent Arkansas-registered professional engineer's* certification must be furnished to the Director upon request until he releases the owner or operator from the financial assurance requirements for closure under § 265.143(h).

§ 265.116 Survey plat

No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable Subsection G rules.

§ 265.117 Post-closure care and use of property

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 265.117 through 265.120 must begin after completion of closure of the unit and continue for 30 years after that date. It must consist of at least the following:

(i) Monitoring and reporting in accordance with the requirements of Subsections F, K, L, M, and N of this Section; and

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Subsections F, K, L, M, and N of this Section.

(2) Any time preceding closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular hazardous waste disposal unit, the Director may:

(i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the

reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility, if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(b) The Director may require, at partial and final closure, continuation of any of the security requirements of § 265.14 during part or all of the post-closure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Director finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in § 265.118.

§ 265.118 Post-closure plan; amendment of plan

(a) Written plan. By May 19, 1981, the owner or operator of a hazardous waste disposal unit must have a written post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous wastes at closure must prepare a post-closure plan and submit it to the Director within 90 days of the date that the owner or operator or Director determines that the hazardous waste management unit or facility must be closed as a landfill, subject to the requirements of §§ 265.117 through 265.120.

(b) Until final closure of the facility, a copy of the most current post-closure plan must be furnished to the Director upon request, including request by mail. In addition, for facilities without approved post-closure plans, it must also be provided during site inspections, on the day of inspection, to any officer, employee or representative of the Division who is duly designated by the Director. After final closure has been certified, the person or office specified in § 265.118(c)(3) must keep the approved post-closure plan during the post-closure period.

(c) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subsections F, K, L, M, and N of this Section during the post-closure care period; and

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

- (i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Subsections K, L, M, and N of this Section; and
 - (ii) The function of the monitoring equipment in accordance with the requirements of Subsections F, K, L, M, and N of this Section; and
 - (3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.
 - (4) For facilities subject to § 265.121, provisions that satisfy the requirements of § 265.121(a)(1) and (3).
 - (5) For facilities where the Director has applied alternative requirements at a regulated unit under §§ 265.90(f), 265.110(d), and/or 265.140(d), either the alternative requirements that apply to the regulated unit, or a reference to the enforceable document containing those requirements.
- (d) Amendment of plan. The owner or operator may amend the post-closure plan any time during the active life of the facility or during the post-closure care period. An owner or operator with an approved post-closure plan must submit a written request to the Director to authorize a change to the approved plan. The written request must include a copy of the amended post-closure plan for approval by the Director.
- (1) The owner or operator must amend the post-closure plan whenever:
 - (i) Changes in operating plans or facility design affect the post-closure plan, or
 - (ii) Events which occur during the active life of the facility, including partial and final closures, affect the post-closure plan.
 - (iii) The owner or operator requests the Director to apply alternative requirements to a regulated unit under §§ 265.90(f), 265.110(d), and/or 265.140(d).
 - (2) The owner or operator must amend the post-closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan.
 - (3) An owner or operator with an approved post-closure plan must submit the modified plan to the Director at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the post-closure plan. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with § 265.228(b) or § 265.258(a) is required to close as a landfill in accordance with § 265.310, the owner or operator must submit a post-closure plan within 90 days of the determination by the owner or operator or Director that the unit must be closed as a landfill. If the amendment to the post-closure plan is a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved according to the procedures in § 265.118(f).
 - (4) The Director may request modifications to the plan under the conditions described in paragraph (d)(1) of this section. An owner or operator with an approved post-closure plan must submit the modified plan no later than 60 days of the request from the Director. If the amendment to the plan is considered a Class 2 or 3 modification according to the criteria in § 270.42, the modifications to the post-closure plan will be approved in accordance with the procedures in § 265.118(f). If the Director determines that an owner or operator of a surface impoundment or waste pile who intended to remove all hazardous wastes at closure must close the facility as a landfill, the owner or operator must submit a post-closure plan for approval to the Director within 90 days of the determination.

(e) The owner or operator of a facility with hazardous waste management units subject to these requirements must submit his post-closure plan to the Director at least 180 days before the date he expects to begin partial or final closure of the first hazardous waste disposal unit. The date he “expects to begin closure” of the first hazardous waste disposal unit must be either within 30 days after the date on which the hazardous waste management unit receives the known final volume of hazardous waste or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. The owner or operator must submit the post-closure plan to the Director no later than 15 days after:

(1) Termination of interim status (except when a permit is issued to the facility simultaneously with termination of interim status); or

(2) Issuance of a judicial decree or final orders under section 3008 of RCRA to cease receiving wastes or close.

(f) The Director will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the post-closure plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a post-closure plan. The Director will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Director will approve, modify, or disapprove the plan within 90 days of its receipt. If the Director does not approve the plan he shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Director will approve or modify this plan in writing within 60 days. If the Director modifies the plan, this modified plan becomes the approved post-closure plan. The Director must ensure that the approved post-closure plan is consistent with §§ 265.117 through 265.120. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(g) The post-closure plan and length of the post-closure care period may be modified any time prior to the end of the post-closure care period in either of the following two ways:

(1) The owner or operator or any member of the public may petition the Director to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause, or alter the requirements of the post-closure care period based on cause.

(i) The petition must include evidence demonstrating that:

(A) The secure nature of the hazardous waste management unit or facility makes the post-closure care requirement(s) unnecessary or supports reduction of the post-closure care period specified in the current post-closure plan (e.g., leachate or ground-water monitoring results, characteristics of the wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure), or

(B) The requested extension in the post-closure care period or alteration of post-closure care requirements is necessary to prevent threats to human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the

environment).

(ii) These petitions will be considered by the Director only when they present new and relevant information not previously considered by the Director. Whenever the Director is considering a petition, he will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The Director will give the public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined.) After considering the comments, he will issue a final determination, based upon the criteria set forth in paragraph (g)(1) of this section.

(iii) If the Director denies the petition, he will send the petitioner a brief written response giving a reason for the denial.

(2) The Director may tentatively decide to modify the post-closure plan if he deems it necessary to prevent threats to human health and the environment. He may propose to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause or alter the requirements of the post-closure care period based on cause.

(i) The Director will provide the owner or operator and the affected public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice and the opportunity for a public hearing as in paragraph (g)(1)(ii) of this section. After considering the comments, he will issue a final determination.

(ii) The Director will base his final determination upon the same criteria as required for petitions under paragraph (g)(1)(i) of this section. A modification of the post-closure plan may include, where appropriate, the temporary suspension rather than permanent deletion of one or more post-closure care requirements. At the end of the specified period of suspension, the Director would then determine whether the requirement(s) should be permanently discontinued or reinstated to prevent threats to human health and the environment.

§ 265.119 Post-closure notices

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property — or on some other instrument which is normally examined during title search — that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

- (ii) Its use is restricted under § 265, Subsection G rules; and
- (iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 265.116 and 265.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Director; and
- (2) Submit a certification signed by the owner or operator that he has recorded the notation specified in paragraph (b)(1) of this section and a copy of the document in which the notation has been placed, to the Director.
- (c) If the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal unit was located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, and all contaminated structures, equipment, and soils, he must request a modification to the approved post-closure plan in accordance with the requirements of § 265.118(g). The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of § 265.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this rule. If the owner or operator is granted approval to conduct the removal activities, the owner or operator may request that the Director approve either:
 - (1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search, or
 - (2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

§ 265.120 Certification of completion of post-closure care

No later than 60 days after the completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Director, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an *independent qualified Arkansas-registered professional engineer*. Documentation supporting the independent Arkansas-registered professional engineer's certification must be furnished to the Director upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under § 265.145(h).

§ 265.121 Post-closure requirements for facilities that obtain enforceable documents in lieu of post-closure permits

- (a) Owners and operators who are subject to the requirement to obtain a post-closure permit under § 270.1(c), but who obtain enforceable documents in lieu of post-closure permits, as provided under § 270.1(c)(7), must comply with the following requirements:
 - (1) The requirements to submit information about the facility in § 270.28;
 - (2) The requirements for facility-wide corrective action in § 264.101 of this rule;
 - (3) The requirements of §§ CFR 264.91 through 264.100.
- (b)(1) The Director, in issuing enforceable documents under Sec. 265.121 in lieu of permits, will assure a meaningful opportunity for public involvement which, at a minimum, includes public notice and opportunity for public comment:

- (i) When the Division becomes involved in a remediation at the facility as a regulatory or enforcement matter;
- (ii) On the proposed preferred remedy and the assumptions upon which the remedy is based, in particular those related to land use and site characterization; and
- (iii) At the time of a proposed decision that remedial action is complete at the facility. These requirements must be met before the Director may consider that the facility has met the requirements of 40 CFR 270.1(c)(7), unless the facility qualifies for a modification to these public involvement procedures under paragraph (b)(2) or (3) of this section.

(2) If the Director determines that even a short delay in the implementation of a remedy would adversely affect human health or the environment, the Director may delay compliance with the requirements of paragraph (b)(1) of this section and implement the remedy immediately. However, the Director must assure involvement of the public at the earliest opportunity, and, in all cases, upon making the decision that additional remedial action is not needed at the facility.

(3) The Director may allow a remediation initiated prior to October 22, 1998 to substitute for corrective action required under a post-closure permit even if the public involvement requirements of paragraph (b)(1) of this section have not been met so long as the Director assures that notice and comment on the decision that no further remediation is necessary to protect human health and the environment takes place at the earliest reasonable opportunity after October 22, 1998.

Subsection H – Financial Requirements

§ 265.140 Applicability

(a) The requirements of §§ 265.142, 265.143 and 265.147 through 265.150 apply to owners or operators of all hazardous waste facilities, except as provided otherwise in this section or in § 265.1.

(b) The requirements of §§ 265.144 and 265.145 apply only to owners and operators of

(1) Disposal facilities;

(2) Tank systems that are required under § 265.197 to meet the requirements for landfills; and

(3) Containment buildings that are required under § 265.1102 to meet the requirements for landfills.

(c) Facilities owned or operated by the State or the Federal government are exempt from the requirements of this Subsection.

(d) The Director may replace all or part of the requirements of this subpart applying to a regulated unit with alternative requirements for financial assurance set out in the permit or in an enforceable document (as defined in § 270.1(c)(7)), where the Director:

(1) Prescribes alternative requirements for the regulated unit under § 265.90(f) and/or § 265.110(d), and

(2) Determines that it is not necessary to apply the requirements of this subpart because the alternative financial assurance requirements will protect human health and the environment.

§ 265.141 Definitions of terms as used in this Subsection

(a) “Closure plan” means the plan for closure prepared in accordance with the requirements of § 265.112.

(b) “Current closure cost estimate” means the most recent of the estimates prepared in accordance with § 265.142 (a), (b), and (c).

(c) “Current post-closure cost estimate” means the most recent of the estimates prepared in accordance with § 265.144 (a), (b), and (c).

(d) “Parent corporation” means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a “subsidiary” of the parent corporation.

(e) “Post-closure plan” means the plan for post-closure care prepared in accordance with the requirements of §§ 265.117 through 265.120.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these rules and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

“Assets” means all existing and all probable future economic benefits obtained or controlled by a particular entity.

“Captive insurance” means insurance for which the insurer underwrites insurance policies solely for its parent corporation or for other affiliates controlled by its parent.

“Completed fiscal year” shall mean a period based upon generally accepted accounting practices.

“Current assets” means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

“Current liabilities” means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

“Current plugging and abandonment cost estimate” means the most recent of the estimates prepared in accordance with 40 CFR Part 144.62(a), (b), and (c) of this title.

“Independently audited” refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

“Liabilities” means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

“Net working capital” means current assets minus current liabilities.

“Net worth” means total assets minus total liabilities and is equivalent to owner’s equity.

“Tangible net worth” means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms “bodily injury” and “property damage” shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practice, are excluded from coverage in liability policies for bodily injury and property damage. The Division intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are

intended to assist in the understanding of these rules and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

“Accidental occurrence” means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

“Legal defense costs” means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

“Nonsudden accidental occurrence” means an occurrence which takes place over time and involves continuous or repeated exposure.

“Sudden accidental occurrence” means an occurrence which is not continuous or repeated in nature.

(h) “Substantial business relationship” means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A “substantial business relationship” must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the Director.

§ 265.142 Cost estimate for closure

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in §§ 265.111 through 265.115 and applicable closure requirements of §§ 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102.

(1) The estimate must equal the cost of final closure at the point in the facility’s active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 265.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 265.141(d).) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under § 265.113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under § 265.113(d), that might have economic value.

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 265.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm’s fiscal year and before submission of updated information to the Director as specified in § 265.143(e)(3). The adjustment may be made by recalculating the closure cost estimate in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce

in its Survey of Current Business, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after a revision has been made to the closure plan which increases the cost of closure. If the owner or operator has an approved closure plan, the closure cost estimate must be revised no later than 30 days after the Director has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in § 265.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with §§ 265.142 (a) and (c) and, when this estimate has been adjusted in accordance with § 265.142(b), the latest adjusted closure cost estimate.

§ 265.143 Financial assurance for closure

By the effective date of these rules, an owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (e) of this section.

(a) Closure trust fund. (1) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with the effective date of these rules or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the “pay-in period.” The payments into the closure trust fund must be made as follows:

(i) The first payment must be made by the effective date of these rules, except as provided in paragraph (a)(5) of this section. The first payment must be at least equal to the current closure cost estimate, except as provided in § 265.143(f), divided by the number of years in the pay-in period.

(ii) Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

CE - CV

$$\text{Next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in paragraph (a)(3) of this section.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Director for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Director for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Director will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Director. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days after receiving bills for partial or final closure activities, the Director will instruct the trustee to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Director has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 265.143(h) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Director does not instruct the trustee to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(11) The Director will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(b) Surety bond guaranteeing payment into a closure trust fund. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements specified in § 265.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 265.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Director becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in § 265.143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate

decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Director.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Director has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Closure letter of credit. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Director. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements of the trust fund specified in § 265.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 265.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Director by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Director have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in § 265.143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Director.

(8) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan when required to do so, the Director may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Director will draw on the letter of credit. The Director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Director.

(10) The Director will return the letter of credit to the issuing institution for termination when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(d) Closure insurance. (1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Director. By the effective date of these rules the owner or operator must submit to the Director a letter from an insurer stating that the insurer is considering issuance of closure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these rules, the owner or operator must submit the certificate of insurance *and a copy of the applicable insurance policy* to the Director or establish other financial assurance as specified in this section. At a minimum, the insurer must be 1) licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer *as recognized by the Arkansas Insurance Department*; and 2) *have a current rating of AAA, AA, or A as rated by Standard & Poor's; Aaa, Aa, or A if rated by Moody's, or A++, A+, A, or A- if rated by A.M. Best. Captive insurance shall not be used to provide financial assurance under the requirements of this Rule.*

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in § 265.143(f). The term “face amount” means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer’s future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Director, to such party or parties as the Director specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Director. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Director will instruct the insurer to make reimbursements in such amounts as the Director specifies in writing if the Director determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Director has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with § 265.143(h), that the owner or operator is no longer required to maintain financial assurance for final closure of the particular facility. If the Director does not instruct the insurer to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Director consents to termination of the policy by the owner or operator as specified in paragraph (d)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these rules, warranting such remedy as the Director deems necessary. Such violation will be deemed to begin upon receipt by the Director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Director. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

- (i) The Director deems the facility abandoned; or
- (ii) Interim status is terminated or revoked; or
- (iii) Closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or

- (iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
- (v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Director.

(10) The Director will give written consent to the owner or operator that he may terminate the insurance policy when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(e) Financial test and corporate guarantee for closure.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (e)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's^{*}; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (e)(1) of this section refers to

the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Director:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted; *and*

(iv) A copy of the owner's or operator's independently audited financial statements for the latest completed fiscal year, with all notes and attachments.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these rules and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these rules, a letter to the Director. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these rules;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all *four* items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, he must send notice to the Director of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no

longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

- (i) An owner or operator substitutes alternate financial assurance as specified in this section; or
- (ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (8) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (e)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

- (i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 265.143(a) in the name of the owner or operator.
- (ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Director may use any or all of the mechanisms to provide for closure of the facility.

(g) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Director must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Directors of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and an independent qualified Arkansas-registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Director has reason to believe that final closure has not been in accordance with the approved closure plan. The Director shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

§ 265.144 Cost estimate for post-closure care

(a) The owner or operator of a hazardous waste disposal unit must have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure rules in §§ 265.117 through 265.120, 265.228, 265.258, 265.280, and 265.310.

(1) The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party who is neither a parent nor subsidiary of the owner or operator. (See definition of parent corporation in § 265.141(d).)

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under § 265.117.

(b) During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 265.145. For owners or operators using the financial test or corporate guarantee, the post-closure care cost estimate must be updated for inflation no later than 30 days after the close of the firm's fiscal year and before submission of updated information to the Director as specified in § 265.145(d)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in § 265.145 (b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the post-closure cost estimate no later than 30 days after a revision to the post-closure plan which increases the cost of post-closure care. If the owner or operator has an approved post-closure plan, the post-closure cost estimate must be revised no later than 30 days after the Director has approved the request to modify the plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in § 265.144(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with § 265.144 (a) and (c) and, when this estimate has been adjusted in accordance with § 265.144(b), the latest adjusted post-closure cost estimate.

§ 265.145 Financial assurance for post-closure care

By the effective date of these rules, an owner or operator of a facility with a hazardous waste disposal unit must establish financial assurance for post-closure care of the disposal unit(s).

(a) Post-closure trust fund. (1) An owner or operator may satisfy the requirements of this section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with the effective date of these rules or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is

hereafter referred to as the “pay-in period.” The payments into the post-closure trust fund must be made as follows:

(i) The first payment must be made by the effective date of these rules, except as provided in paragraph (a)(5) of this section. The first payment must be at least equal to the current post-closure cost estimate, except as provided in § 265.145(f), divided by the number of years in the pay-in period.

(ii) Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{CE} - \text{CV}$$

$$\text{Next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

Y

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in paragraph (a)(3) of this section.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee’s most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Director for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Director for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Director will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

(10) During the period of post-closure care, the Director may approve a release of funds if the owner or operator demonstrates to the Director that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure expenditures by submitting itemized bills to the Director. Within 60 days after receiving bills for post-closure care activities, the Director will

instruct the trustee to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Director does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Director will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(b) Surety bond guaranteeing payment into a post-closure trust fund. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Director. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements specified in § 265.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 265.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Director becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Director's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-

closure cost estimate, except as provided in § 265.145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Director.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Director has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Post-closure letter of credit. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Director. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director. This standby trust fund must meet the requirements of the trust fund specified in § 265.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Director with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these rules:

(A) Payments into the trust fund as specified in § 265.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing

institution notifies both the owner or operator and the Director by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Director have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Director.

(8) During the period of post-closure care, the Director may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Director that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Director may draw on the letter of credit.

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Director will draw on the letter of credit. The Director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Director will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Director.

(11) The Director will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(d) Post-closure insurance. (1) An owner or operator may satisfy the requirements of this section by obtaining post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Director. By the effective date of these rules the owner or operator must submit to the Director a letter from an insurer stating that the insurer is considering issuance of post-closure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these rules, the owner or operator must submit the certificate of insurance to the Director or establish other financial assurance as specified in this section. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f). The term “face amount” means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer’s future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Director, to such party or parties as the Director specifies.

(5) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure care expenditures by submitting itemized bills to the Director. Within 60 days after receiving bills for post-closure care activities, the Director will instruct the insurer to make reimbursements in those amounts as the Director specifies in writing, if the Director determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Director does not instruct the insurer to make such reimbursements, he will provide a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Director consents to termination of the policy by the owner or operator as specified in paragraph (d)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in the section, will constitute a significant violation of these rules, warranting such remedy as the Director deems necessary. Such violation will be deemed to begin upon receipt by the Director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Director. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Director and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

- (i) The Director deems the facility abandoned; or
- (ii) Interim status is terminated or revoked; or
- (iii) Closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or
- (iv) The owner or operator is named as debtor in a voluntary or involuntary

proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Director, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Director.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amounts of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Director will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(e) Financial test and corporate guarantee for post-closure care. (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria either of paragraph (e)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least \$10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total

assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase “current closure and post-closure cost estimates” as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner’s or operator’s chief financial officer (§ 264.151(f)). The phrase “current plugging and abandonment cost estimates” as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner’s or operator’s chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Director:

(i) A letter signed by the owner’s or operator’s chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant’s report on examination of the owner’s or operator’s financial statements for the latest completed fiscal year; and

(iii) A special report from the owner’s or operator’s independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted; and

(iv) A copy of the owner’s or operator’s independently audited financial statements for the latest completed fiscal year, with all notes and attachments.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these rules and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner’s or operator’s fiscal year. To obtain the extension, the owner’s or operator’s chief financial officer must send, by the effective date of these rules, a letter to the Director of each Region in which the owner’s or operator’s facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and the current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner’s or operator’s latest complete fiscal year before the effective date of these rules;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the

owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, he must send notice to the Director of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Director may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Director that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Director releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (9) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in § 264.151(h). A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (e)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must

describe this “substantial business relationship” and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 265.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Director, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Director within 90 days after receipt by both the owner or operator and the Director of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Director may use any or all of the mechanisms to provide for post-closure care of the facility.

(g) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Director must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Directors of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Director may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and an independent Arkansas-registered professional engineer that the post-closure care period has been completed in accordance with the approved post-closure plan, the Director will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for post-closure care of that unit, unless the Director has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Director will provide the owner or operator a detailed written

statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

§ 265.146 Use of a mechanism for financial assurance of both closure and post-closure care

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both §§ 265.143 and 265.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

§ 265.147 Liability requirements

(a) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph. *Captive insurance shall not be used to provide such liability coverage under the requirements of this Rule.*

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement, or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Director. The owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust

fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as “primary” coverage and shall specify other assurance as “excess” coverage.

(7) An owner or operator shall notify the Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (a)(6) of this section.

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least \$4 million per occurrence and \$8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraph (b) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph. *Captive insurance shall not be used to provide such liability coverage under the requirements of this Rule.*

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Director, and the appropriate EPA

Regional Administrators if the facilities are located in more than one EPA Region. If requested by the Director or a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (b)(1) through (b)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (b)(1) through (b)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (b)(1) through (b)(6) of this section.

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Director that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Director. The request for a variance must be submitted in writing to the Director. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Director's assessment of the degree and duration of risk associated with the

ownership or operation of the facility or group of facilities. The Director may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Director to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. The Director will process a variance request as if it were a permit modification request under § 270.41(a)(5) of this rule and subject to the procedures of § 16.5 of this rule. Notwithstanding any other provision, the Director may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to grant a variance.

(d) Adjustments by the Director. If the Director determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Director may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Director's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Director determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Director, within a reasonable time, any information which the Director requests to determine whether cause exists for such adjustments of level or type of coverage. The Director will process an adjustment of the level of required coverage as if it were a permit modification under § 270.41(a)(5) of this rule and subject to the procedures of § 16.5 of this rule. Notwithstanding any other provision, the Director may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to adjust the level or type of required coverage.

(e) Period of coverage. Within 60 days after receiving certifications from the owner or operator and an independent qualified Arkansas-registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Director has reason to believe that closure has not been in accordance with the approved closure plan.

(f) Financial test for liability coverage. (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least \$10 million; and

(C) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

- (B) Tangible net worth of at least \$10 million; and
- (C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and
- (D) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase “amount of liability coverage” as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following *four* items to the Director:

- (i) A letter signed by the owner’s or operator’s chief financial officer and worded as specified in § 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e), and liability coverage, he must submit the letter specified in § 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in § 264.151(f) is not required.

- (ii) A copy of the independent certified public accountant’s report on examination of the owner’s or operator’s financial statements for the latest completed fiscal year.

- (iii) A special report from the owner’s or operator’s independent certified public accountant to the owner or operator stating that:

- (A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

- (B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted; and

- (iv) *A copy of the owner’s or operator’s independently audited financial statements for the latest completed fiscal year, with all notes and attachments.*

(4) The owner or operator may obtain a one-time extension of the time allowed for submission of the documents specified in paragraph (f)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these rules and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner’s or operator’s fiscal year. To obtain the extension, the owner’s or operator’s chief financial officer must send, by the effective date of these rules, a letter to the Director. This letter from the chief financial officer must:

- (i) Request the extension;

- (ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

- (iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, the amount of liability coverage and, when applicable, current closure and post-closure cost estimates to be covered by the test;

- (iv) Specify the date ending the owner’s or operator’s last complete fiscal year before the effective date of these rules;

- (v) Specify the date, no later than 90 days after the end of such fiscal year, when he

will submit the documents specified in paragraph (f)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Director within 90 days after the close of each succeeding fiscal year. This information must consist of all *four* items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage must be submitted to the Director within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Director will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) Guarantee for liability coverage. (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in § 264.151(h)(2) of this rule. A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to

EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and if (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) Letter of credit for liability coverage. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Director.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in § 264.151(k) of this rule.

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(5) The wording of the standby trust fund must be identical to the wording specified in § 264.151(n).

(i) Surety bond for liability coverage. (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Director.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in § 264.151(l) of this rule.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (i) the State in which the surety is incorporated, and (ii) each State in which a facility covered by the surety bond is located have submitted a written statement to the Division that a surety bond executed as described in this section and § 264.151(l) of this rule is a legally valid and enforceable obligation in that State.

(j) Trust fund for liability coverage. (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Director.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability

coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the Fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, “the full amount of the liability coverage to be provided” means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(4) The wording of the trust fund must be identical to the wording specified in § 264.151(m) of this Rule.

(k) Notwithstanding any other provision of this Section, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States.

§ 265.148 Incapacity of owners or operators, guarantors, or financial institutions

(a) An owner or operator must notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 265.143(e) and 265.145(e) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 265.143, § 265.145, or § 265.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 265.149 Use of State-required mechanisms

(a) For a facility located in a State where EPA is administering the requirements of this Subsection but where the State has hazardous waste rules that include requirements for financial assurance of closure or post-closure care or liability coverage, an owner or operator may use State-required financial mechanisms to meet the requirements of § 265.143, § 265.145, or § 265.147 if the Director determines that the State mechanisms are at least equivalent to the financial mechanisms specified in this Subsection. The Director will evaluate the equivalency of the mechanisms principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Director may also consider other factors as he deems appropriate. The owner or operator must submit to the Director evidence of the establishment of the mechanism together with

a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this Subsection. The submission must include the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage assured by the mechanism. The Director will notify the owner or operator of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this Subsection. The Director may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 265.143, § 265.145, or § 265.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this Subsection by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this Subsection. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this Subsection.

§ 265.150 State assumption of responsibility

(a) If the State either assumes legal responsibility for an owner's or operator's compliance with the closure, post-closure care, or liability requirements of this Section or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 265.143, § 265.145, or § 265.147 if the Director determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this Subsection. The Director will evaluate the equivalency of State guarantees principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Director may also consider other factors as he deems appropriate. The owner or operator must submit to the Director a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this Subsection. The letter from the State must include, or have attached to it, the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage that are guaranteed by the State. The Director will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this Subsection. The Director may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of §§ 265.143, § 265.145, or § 265.147, as applicable.

(b) If the State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this Subsection by use of both the State's assurance and additional financial mechanisms as specified in this Subsection. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this Subsection.

Subsection I – Use and Management of Containers

§ 265.170 Applicability

The rules in this Subsection apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as § 265.1 provides otherwise.

§ 265.171 Condition of containers

If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this Section.

§ 265.172 Compatibility of waste with container

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

§ 265.173 Management of containers

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

[Comment: Re-use of containers in transportation is governed by U.S. Department of Transportation regulations, including those set forth in 49 CFR 173.28.]

§ 265.174 Inspections

At least weekly, the owner or operator must inspect areas where containers are stored. The owner or operator must look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. See § 265.171 for remedial action required if deterioration or leaks are detected.

§ 265.175 [Reserved]

§ 265.176 Special requirements for ignitable or reactive waste

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[Comment: See § 265.17(a) for additional requirements.]

§ 265.177 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same container, unless § 265.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see Appendix V for examples), unless § 265.17(b) is complied

with.

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.]

§ 265.178 Air emission standards

The owner or operator shall manage all hazardous waste placed in a container in accordance with the requirements of subsections AA, BB, and CC of this section.

Subsection J – Tank Systems

§ 265.190 Applicability

The requirements of this Subsection apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (a), (b), and (c) of this section or in § 265.1 of this Section.

(a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and that are situated inside a building with an impermeable floor are exempted from the requirements in § 265.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095B (Paint Filter Liquids Test) as described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(b) Tank systems, including sumps, as defined in § 260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in § 265.193(a).

(c) Tanks, sumps, and other collection devices used in conjunction with drip pads, as defined in § 260.10 of this rule and regulated under § 265 Subsection W, must meet the requirements of this Subsection.

§ 265.191 Assessment of existing tank system’s integrity

(a) For each existing tank system that does not have secondary containment meeting the requirements of § 265.193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an *independent, qualified, Arkansas-registered professional engineer* in accordance with § 270.11(d) of this rule, that attests to the tank system’s integrity by January 12, 1988.

(b) This assessment must determine that the tank system is adequately designed and has

sufficient structural strength and compatibility with the waste(s) to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

- (1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;
- (2) Hazardous characteristics of the waste(s) that have been or will be handled;
- (3) Existing corrosion protection measures;
- (4) Documented age of the tank system, if available, (otherwise, an estimate of the age); and
- (5) Results of a leak test, internal inspection, or other tank integrity examination such that:
 - (i) For non-enterable underground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,
 - (ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must be either a leak test, as described above, or an internal inspection and/or other tank integrity examination certified by an *independent, qualified, Arkansas-registered professional engineer* in accordance with § 270.11(d) that addresses cracks, leaks, corrosion, and erosion.

[Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Regulation XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting the integrity examination of an other than non-enterable underground tank system.]

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986 must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a) of this section, a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of § 265.196.

§ 265.192 Design and installation of new tank systems or components

(a) Owners or operators of new tank systems or components must ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator must obtain a written assessment reviewed and certified by an *independent, qualified, Arkansas-registered professional engineer* in accordance with § 270.11(d) of this rule attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment must include, at a minimum, the following information:

- (1) Design standard(s) according to which the tank(s) and ancillary equipment is or will be constructed.
- (2) Hazardous characteristics of the waste(s) to be handled.
- (3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

- (i) Factors affecting the potential for corrosion, including but not limited to:
 - (A) Soil moisture content;
 - (B) Soil pH;
 - (C) Soil sulfides level;
 - (D) Soil resistivity;
 - (E) Structure to soil potential;
 - (F) Influence of nearby underground metal structures (e.g., piping);
 - (G) Stray electric current; and,
 - (H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and
- (ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:
 - (A) Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;
 - (B) Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes); and
 - (C) Electrical isolation devices such as insulating joints and flanges.

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, “Recommended Practice (RP-02-85) — Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems,” and the American Petroleum Institute (API) Publication 1632, “Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems,” may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

- (4) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and
 - (5) Design considerations to ensure that:
 - (i) Tank foundations will maintain the load of a full tank;
 - (ii) Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and
 - (iii) Tank systems will withstand the effects of frost heave.
 - (b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an *independent, qualified, Arkansas-registered professional engineer*, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for the presence of any of the following items:
 - (1) Weld breaks;
 - (2) Punctures;
 - (3) Scrapes of protective coatings;
 - (4) Cracks;
 - (5) Corrosion;
 - (6) Other structural damage or inadequate construction or installation.
- All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.
- (c) New tank systems or components and piping that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous

substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed in use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems," or ANSI Standard B31.3, "Petroleum Refinery System," may be used, where applicable, as guidelines for proper installation of piping systems.

(f) The owner or operator must provide the type and degree of corrosion protection necessary, based on the information provided under paragraph (a)(3) of this section, to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section to attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section were performed. These written statements must also include the certification statement as required in § 270.11(d) of this rule.

§ 265.193 Containment and detection of releases

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new and existing tank systems or components, prior to their being put into service;

(2) For tank systems that store or treat materials that become hazardous wastes, within two (2) years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic);

(2) Placed on a foundation or base capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours;

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

Note: If the collected material is a hazardous waste under Section 261 of this rule, it is subject to management as a hazardous waste in accordance with all applicable requirements of Sections 262 through 265 of this rule. If the collected material is discharged through a point source to waters of the State, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to Publicly Owned Treatment Works (POTWs), it is subject to the requirements of section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302.

(d) Secondary containment for tanks must include one or more of the following devices:

- (1) A liner (external to the tank);
- (2) A vault;
- (3) A double-walled tank; or
- (4) An equivalent device as approved by the Director.

(e) In addition to the requirements of paragraphs (b), (c), and (d) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

- (i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;
- (ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;
- (iii) Free of cracks or gaps; and
- (iv) Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

- (i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;
- (ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;
- (iii) Constructed with chemical-resistant water stops in place at all joints (if any);
- (iv) Provided with an impermeable interior coating or lining that is compatible with

the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under § 261.21 of this rule, or

(B) Meets the definition of reactive waste under § 261.23 of this rule and may form an ignitable or explosive vapor; and

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell;

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell; and

(iii) Provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the Director, and the Director concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours.

Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tank" may be used as guidelines for aspects of the design of underground steel double-walled tanks.

(f) Ancillary equipment must be provided with full secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this Section if the Director finds, as a result of a demonstration by the owner or operator, either: that alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous constituents into the ground water or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section. Application for a variance as allowed in paragraph (g) of this section does not waive compliance with the requirements of this Subsection for new tank systems. (1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the Director will consider:

(i) The nature and quantity of the waste;

(ii) The proposed alternate design and operation;

- (iii) The hydrogeologic setting of the facility, including the thickness of soils between the tank system and ground water; and
 - (iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.
- (2) In deciding whether to grant a variance, based on a demonstration of no substantial present or potential hazard, the Director will consider:
 - (i) The potential adverse effects on ground water, surface water, and land quality taking into account:
 - (A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,
 - (B) The hydrogeological characteristics of the facility and surrounding land,
 - (C) The potential for health risks caused by human exposure to waste constituents,
 - (D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and
 - (E) The persistence and permanence of the potential adverse effects;
 - (ii) The potential adverse effects of a release on ground-water quality, taking into account:
 - (A) The quantity and quality of ground water and the direction of ground-water flow,
 - (B) The proximity and withdrawal rates of water in the area,
 - (C) The current and future uses of ground water in the area, and
 - (D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;
 - (iii) The potential adverse effects of a release on surface water quality, taking into account:
 - (A) The quantity and quality of ground water and the direction of ground-water flow,
 - (B) The patterns of rainfall in the region,
 - (C) The proximity of the tank system to surface waters,
 - (D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and
 - (E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and
 - (iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:
 - (A) The patterns of rainfall in the region, and
 - (B) The current and future uses of the surrounding land.
- (3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:
 - (i) Comply with the requirements of § 265.196, except paragraph (d); and
 - (ii) Decontaminate or remove contaminated soil to the extent necessary to:
 - (A) Enable the tank system, for which the variance was granted, to resume operation with the capability for the detection of and response to releases at least

equivalent to the capability it had prior to the release, and

(B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirements of § 265.197(b);

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 265.196(a), (b), (c), and (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if ground water has been contaminated, the owner or operator must comply with the requirements of § 265.197(b);

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of paragraphs (a) through (f) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in § 265.192 if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed, and ground water or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The Director must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (g) of this section according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with paragraph (a) of this section; and

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation of the tank system.

(2) As part of the notification, the owner or operator must also submit to the Director a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or paragraph (g)(2) of this section.

(3) The demonstration for a variance must be completed and submitted to the Director within 180 days after notifying the Director of intent to conduct the demonstration.

(4) The Director will inform the public, through a newspaper notice, of the availability of the demonstration for a variance. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least 30 days from the date of the notice for the public to review and comment on the demonstration for a variance. The Director also will hold a public hearing, in response to a request or at his own discretion, whenever such a hearing might clarify one or more issues concerning the demonstration for a variance. Public notice of the hearing will be given at least 30 days prior to the date of the hearing and may be given at the same time as notice of the opportunity for the public to review and comment on the demonstration. These two notices may be combined.

(5) The Director will approve or disapprove the request for a variance within 90 days of receipt of the demonstration from the owner or operator and will notify in writing the owner or operator and each person who submitted written comments or requested notice of the variance decision. If the demonstration for a variance is incomplete or does not include sufficient information, the 90-day time period will begin when the Director receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in paragraph (h)(4) of this section is extended, the 90-day time period will be similarly extended.

(i) All tank systems, until such time as secondary containment meeting the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of § 265.191(b)(5) must be conducted at least annually;

(2) For other than non-enterable underground tanks and for all ancillary equipment, an annual leak test, as described in paragraph (i)(1) of this section, or an internal inspection or other tank integrity examination by an *independent, qualified, Arkansas-registered professional engineer* that addresses cracks, leaks, corrosion, and erosion must be conducted at least annually. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

Note: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refining Equipment, Chapter XIII, "Atmospheric and Low Pressure Storage Tanks," 4th edition, 1981, may be used, when applicable, as guidelines for assessing the overall condition of the tank system.

(3) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(4) If a tank system or component is found to be leaking or unfit-for-use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of § 265.196.

§ 265.194 General operating requirements

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum:

(1) Spill prevention controls (e.g., check valves, dry disconnect couplings);

(2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of § 265.196 if a leak or spill occurs in the tank system.

§ 265.195 Inspections

(a) The owner or operator must inspect, where present, at least once each operating day, data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges,

monitoring wells) to ensure that the tank system is being operated according to its design.

Note: Section 265.15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section 265.196 requires the owner or operator to notify the Director within 24 hours of confirming a release. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of a release.

(b) Except as noted under the paragraph (c) of this section, the owner or operator must inspect at least once each operating day:

(1) Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(2) Above ground portions of the tank system, if any, to detect corrosion or releases of waste; and

(3) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

(c) Owners or operators of tank systems that either use leak detection equipment to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, must inspect at least weekly those areas described in paragraphs (b)(1) through (3) of this section. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

(d) [Reserved]

(e) Ancillary equipment that is not provided with secondary containment, as described in § 265.193(f)(1) through (4), must be inspected at least once each operating day.

(f) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation, and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85) — Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.

(g) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) and (b) of this section.

§ 265.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) Cessation of use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) Removal of waste from tank system or secondary containment system.

(1) If the release was from the tank system, the owner or operator must, within 24 hours after detection of the leak or, if the owner or operator demonstrates that is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the release was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) Containment of visible releases to the environment. The owner or operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports.

(1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Director within 24 hours of detection. If the release has been reported pursuant to 40 CFR part 302, that report will satisfy this requirement.

(2) A leak or spill of hazardous waste that is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned-up is exempted from the requirements of this paragraph.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Director:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release, (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Director as soon as they become available.;

(iv) Proximity to downgradient drinking water, surface water, and population areas; and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure. (1) Unless the owner or operator satisfies the requirements of paragraphs (e) (2) through (4) of this section, the tank system must be closed in accordance with § 265.197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of § 265.193 before it can be returned to service, unless the source of the leak is

an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in §§ 265.192 and 265.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with § 265.193 prior to being returned to use.

(f) Certification of major repairs. If the owner or operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, Arkansas-registered professional engineer in accordance with § 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Director within seven days after returning the tank system to use. This certification is to be placed in the operating record and maintained until closure of the facility.

Note: The Director may, on the basis of any information received that there is or has been a release of hazardous waste, hazardous constituents, and/or hazardous substances into the environment, issue an order under the Arkansas Remedial Action Trust Fund Act (A.C.A. §§ 8-7-501, *et seq.*) requiring corrective action or such other response as deemed necessary to protect human health or the environment.

Note: See § 265.15(c) for the requirements necessary to remedy a failure. Also, 40 CFR part 302 requires the owner or operator to notify the National Response Center of a release of any “reportable quantity.”

§ 265.197 Closure and post-closure care

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless § 261.3(d) of this Rule applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in Subsections G and H of this Section.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 265.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in Subsections G and H of this Section.

(c) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of § 265.193(b) through (f) and which is not exempt from the secondary containment requirements in accordance with § 265.193(g), then,

(1) The closure plan for the tank system must include both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.

(2) A contingent post-closure plan for complying with paragraph (b) of this section must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section.

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section.

(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under Subsections G and H of this Section.

§ 265.198 Special requirements for ignitable or reactive wastes

(a) Ignitable or reactive waste must not be placed in a tank system, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under §§ 261.21 or 261.23 of this rule; and

(ii) Section 265.17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see § 260.11).

§ 265.199 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible waste and materials, must not be placed in the same tank system, unless § 265.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless § 265.17(b) is complied with.

§ 265.200 Waste analysis and trial tests

In addition to performing the waste analysis required by § 265.13, the owner or operator must, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

(a) Conduct waste analyses and trial treatment or storage tests (e.g., bench-scale or pilot-plant

scale tests); or

(b) Obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of § 265.194(a).

Note: Section 265.13 requires the waste analysis plan to include analyses needed to comply with §§ 265.198 and 265.199. Section 265.73 requires the owner or operator to place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

§ 265.201 [Reserved]

§ 265.202 Air emission standards

The owner or operator shall manage all hazardous waste placed in a tank in accordance with the requirements of subsections AA, BB, and CC of this section.

Subsection K – Surface Impoundments

§ 265.220 Applicability

The rules in this Subsection apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as § 265.1 provides otherwise.

§ 265.221 Design and operating requirements

(a) The owner or operator of each new surface impoundment unit, each lateral expansion of a surface impoundment unit, and each replacement of an existing surface impoundment unit must install two or more liners and a leachate collection and removal system between the liners, and operate the leachate collection and removal system, in accordance with § 264.221(c), unless exempted under § 264.221(d), (e), or (f), of this rule.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Director at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement surface impoundment unit is exempt from paragraph (a) of this section if:

(1) The existing unit was constructed in compliance with the design standards of § 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Director for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in § 261.24 of this rule, with EPA Hazardous Waste Numbers D004 through D017; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph the term “liner” means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at

any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (a) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment must comply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an “underground source of drinking water” (as that term is defined in § 270.2 of this rule); and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under RCRA section 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Director when issuing the first permit to such facility, except that the Director will not be precluded from requiring installation of a new liner when the Director has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.

(f) A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided in paragraph (b) of this section, there must be at least 60 centimeters (two feet) of freeboard.

(g) A freeboard level less than 60 centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, must be maintained at the facility.

(h) Surface impoundments that are newly subject to RCRA § 3005(j) due to the promulgation of additional listings or characteristics for the identification of hazardous waste must be in compliance with paragraphs (a), (c), and (d) of this section not later than 48 months after the promulgation of the additional listing or characteristic. This compliance period shall not be cut short as the result of the promulgation of land disposal prohibitions under Section 268 of this rule or the granting of an extension to the effective date of a prohibition pursuant to 40 CFR 268.5, within this 48-month period

§ 265.222 Action leakage rate

(a) The owner or operator of surface impoundment units subject to § 265.221(a) must submit a

proposed action leakage rate to the Director when submitting the notice required under § 265.221(b). Within 60 days of receipt of the notification, the Director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Director before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The Director shall approve an action leakage rate for surface impoundment units subject to § 265.221(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 265.226(b), to an average daily flow rate (gallons per acre per day) for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit closes in accordance with § 265.228(a)(2), monthly during the post-closure care period when monthly monitoring is required under § 265.226(b).

§ 265.223 Containment system

All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity.

§ 265.224 Response actions

(a) The owner or operator of surface impoundment units subject to § 265.221(a) must develop and keep on site until closure of the facility a response action plan.. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

- (1) Notify the Director in writing of the exceedance within 7 days of the determination;
- (2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;
- (3) Determine to the extent practicable the location, size, and cause of any leak;
- (4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;
- (5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

- (1)(i) Assess the source of liquids and amounts of liquids by source,
 - (ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and
 - (iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or
- (2) Document why such assessments are not needed.

§ 265.225 Waste analysis and trial tests

(a) In addition to the waste analyses required by § 265.13, whenever a surface impoundment is to be used to:

- (1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or
- (2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator must, before treating the different waste or using the different process:
 - (i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or
 - (ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this treatment will comply with § 265.17(b).

[Comment: As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.229 and 265.230. As required by § 265.73, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.]

§ 265.226 Monitoring and inspection

(a) The owner or operator must inspect:

- (1) The freeboard level at least once each operating day to ensure compliance with § 265.222, and
- (2) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.

[Comment: As required by § 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.]

(b)(1) An owner or operator required to have a leak detection system under § 265.221(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) “Pump operating level” is a liquid level proposed by the owner or operator and approved by the Director based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed “pump operating level” will be in accordance with § 265.222(a).

§ 265.227 [Reserved]

§ 265.228 Closure and post-closure care

(a) At closure, the owner or operator must:

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this rule applies; or

(2) Close the impoundment and provide post-closure care for a landfill under Subsection G and § 265.310, including the following:

(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the cover;

(D) Accommodate settling and subsidence so that the cover’s integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) In addition to the requirements of Subsection G, and § 265.310, during the post-closure care period, the owner or operator of a surface impoundment in which wastes, waste residues, or contaminated materials remain after closure in accordance with the provisions of paragraph (a)(2) of this section must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to

the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with §§ 264.221(c)(2)(iv) and (3) of this rule and 265.226(b) and comply with all other applicable leak detection system requirements of this Section;

(3) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Subsection F of this Section; and

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

§ 265.229 Special requirements for ignitable or reactive wastes

Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of Section 268 and 40 CFR part 268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this rule; and

(2) Section 265.17(b) is complied with; or

(b)(1) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; and

(2) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and

(3) The certification and the basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies.

§ 265.230 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same surface impoundment, unless § 265.17(b) is complied with.

§ 265.231 Air emission standards

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the requirements of subsections BB and CC of this section.

Subsection L – Waste Piles

§ 265.250 Applicability

The rules in this Subsection apply to owners and operators of facilities that treat or store hazardous waste in piles, except as § 265.1 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under Subsection N.

§ 265.251 Protection from wind

The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the pile so that wind dispersal is controlled.

§ 265.252 Waste analysis

In addition to the waste analyses required by § 265.13, the owner or operator must analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless (1) The only wastes the facility receives which are amenable to piling are compatible with each other, or (2) the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted must be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture.

[Comment: As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.256 and 265.257. As required by § 265.73, the owner or operator must place the results of this analysis in the operating record of the facility.]

§ 265.253 Containment

If leachate or run-off from a pile is a hazardous waste, then either:

(a)(1) The pile must be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(2) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm;

(3) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm; and

(4) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(b)(1) The pile must be protected from precipitation and run-on by some other means; and

(2) No liquids or wastes containing free liquids may be placed in the pile.

[Comment: If collected leachate or run-off is discharged through a point source to waters of the State, it is subject to the requirements of section 402 of the Clean Water Act, as amended.]

§ 265.254 Design and operating requirements

The owner or operator of each new waste pile on which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after July 29, 1992, and each such replacement of an existing waste pile unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with § 264.251(c), unless exempted under § 264.251(d), (e), or (f), of this rule; and must comply with the procedures of § 265.221(b). “Construction commences” is as defined in § 260.10 of this rule under “existing facility”.

§ 265.255 Action leakage rates

(a) The owner or operator of waste pile units subject to § 265.254 must submit a proposed action leakage rate to the Director when submitting the notice required under § 265.254. Within 60 days of receipt of the notification, the Director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Director before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The Director shall approve an action leakage rate for waste pile units subject to § 265.254. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under § 265.260, to an average daily flow rate (gallons per acre per day) for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

§ 265.256 Special requirements for ignitable or reactive waste

(a) Ignitable or reactive waste must not be placed in a pile unless the waste and pile satisfy all applicable requirements of Section 268 and 40 CFR part 268, and:

(1) Addition of the waste to an existing pile (i) results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this rule, and (ii) complies with § 265.17(b); or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

§ 265.257 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same pile, unless § 265.17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

[Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.]

(c) Hazardous waste must not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with § 265.17(b).

§ 265.258 Closure and post-closure care

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this rule applies; or

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 265.310).

§ 265.259 Response actions

(a) The owner or operator of waste pile units subject to § 265.254 must develop and keep on site until closure of the facility a response action plan. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak determination system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Director in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipts should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

§ 265.260 Monitoring and inspection

An owner or operator required to have a leak detection system under § 265.254 must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

Subsection M – Land Treatment

§ 265.270 Applicability

The rules in this Subsection apply to owners and operators of hazardous waste land treatment facilities, except as § 265.1 provides otherwise.

§ 265.271 [Reserved]

§ 265.272 General operating requirements

(a) Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or nonhazardous by degradation, transformation, or immobilization processes occurring in or on the soil.

(b) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a 25-year storm.

(c) The owner or operator must design, construct, operate, and maintain a run-off management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

(d) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

§ 265.273 Waste analysis

In addition to the waste analyses required by § 265.13, before placing a hazardous waste in or on a land treatment facility, the owner or operator must:

(a) Determine the concentrations in the waste of any substances which equal or exceed the maximum concentrations contained in Table 1 of § 261.24 of this rule that cause a waste to exhibit the Toxicity Characteristic;

(b) For any waste listed in Section 261, Subsection D, of this rule, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

(c) If food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, unless the owner or operator has written, documented data that show that the constituent is not present.

[Comment: Section 261 of this rule specifies the substances for which a waste is listed as a hazardous waste. As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.281 and 265.282. As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

§§ 265.274 — 265.275 [Reserved]

§ 265.276 Food chain crops

(a) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the future, must notify the Director within 60 days after the effective date of this Section.

[Comment: The growth of food chain crops at a facility which has never before been used for this purpose is a significant change in process under 40 CFR 122.72(c). Owners or operators of such land treatment facilities who propose to grow food chain crops after the effective date of this Section must comply with 40 CFR 122.72(c).]

(b)(1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under § 265.273(b):

- (i) Will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or
- (ii) Will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region.

(2) The information necessary to make the demonstration required by paragraph (b)(1) of this section must be kept at the facility and must, at a minimum:

- (i) Be based on tests for the specific waste and application rates being used at the facility; and
- (ii) Include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(c) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraphs (c)(1) (i) through (iii) of this section or all requirements of paragraphs (c)(2) (i) through (iv) of this section are met.

(1)(i) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed:

| Time period | Annual Cd application rate (kg/ha) |
|--------------------|---|
|--------------------|---|

| | |
|-----------------------------------|------|
| Present to June 30, 1984 | 2.0 |
| July 1, 1984 to December 31, 1986 | 1.25 |

Beginning January 1, 1987

0.5

(iii) The cumulative application of cadmium from waste does not exceed the levels in either paragraph (c)(1)(iii)(A) or (B) of this section.

(A)

Maximum cumulative application (kg/ha)

| <i>Soil cation exchange capacity (meq/100g)</i> | <i>Background soil pH < 6.5</i> | <i>Background soil pH > 6.5</i> |
|---|------------------------------------|------------------------------------|
|---|------------------------------------|------------------------------------|

| | | |
|-----------------|---|----|
| Less than 5 | 5 | 5 |
| 5 to 15 | 5 | 10 |
| Greater than 15 | 5 | 20 |

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: Provided, that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

| <i>Soil cation exchange capacity (meq/100g)</i> | <i>Maximum cumulative application (kg/ha)</i> |
|---|---|
|---|---|

| | |
|-----------------|----|
| Less than 5 | 5 |
| 5 to 15 | 10 |
| Greater than 15 | 20 |

(2)(i) The only food chain crop produced is animal feed.

(ii) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (c)(2) of this section.

[Comment: As required by § 265.73, if an owner or operator grows food chain crops on his land treatment facility, he must place the information developed in this section in the operating record of the facility.]

§ 265.277 [Reserved]

§ 265.278 Unsaturated zone (zone of aeration) monitoring

(a) The owner or operator must have in writing, and must implement, an unsaturated zone monitoring plan which is designed to:

(1) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility, and

(2) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring must be conducted before or in conjunction with the monitoring required under paragraph (a)(1) of this section.

(b) The unsaturated zone monitoring plan must include, at a minimum:

(1) Soil monitoring using soil cores, and

(2) Soil-pore water monitoring using devices such as lysimeters.

(c) To comply with paragraph (a)(1) of this section, the owner or operator must demonstrate in his unsaturated zone monitoring plan that:

(1) The depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) The number of soil and soil-pore water samples to be taken is based on the variability of:

(i) The hazardous waste constituents (as identified in § 265.273(a) and (b)) in the waste and in the soil; and

(ii) The soil type(s); and

(3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.

(d) The owner or operator must keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.

(e) The owner or operator must analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under § 265.273 (a) and (b).

[Comment: As required by § 265.73, all data and information developed by the owner or operator under this section must be placed in the operating record of the facility.]

§ 265.279 Recordkeeping

The owner or operator must include hazardous waste application dates and rates in the operating record required under § 265.73.

§ 265.280 Closure and post-closure

(a) In the closure plan under § 265.112 and the post-closure plan under § 265.118, the owner or

operator must address the following objectives and indicate how they will be achieved:

- (1) Control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;
 - (2) Control of the release of contaminated run-off from the facility into surface water;
 - (3) Control of the release of airborne particulate contaminants caused by wind erosion; and
 - (4) Compliance with § 265.276 concerning the growth of food-chain crops.
- (b) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (a) of this section:
- (1) Type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;
 - (2) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;
 - (3) Site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground water, surface water and drinking water sources);
 - (4) Climate, including amount, frequency, and pH of precipitation;
 - (5) Geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;
 - (6) Unsaturated zone monitoring information obtained under § 265.278; and
 - (7) Type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.
- (c) The owner or operator must consider at least the following methods in addressing the closure and post-closure care objectives of paragraph (a) of this section:
- (1) Removal of contaminated soils;
 - (2) Placement of a final cover, considering:
 - (i) Functions of the cover (e.g., infiltration control, erosion and run-off control, and wind erosion control); and
 - (ii) Characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and
 - (3) Monitoring of ground water.
- (d) In addition to the requirements of Subsection G of this Section, during the closure period the owner or operator of a land treatment facility must:
- (1) Continue unsaturated zone monitoring in a manner and frequency specified in the closure plan, except that soil pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone;
 - (2) Maintain the run-on control system required under § 265.272(b);
 - (3) Maintain the run-off management system required under § 265.272(c); and
 - (4) Control wind dispersal of particulate matter which may be subject to wind dispersal.
- (e) For the purpose of complying with § 265.115, when closure is completed the owner or operator may submit to the Director certification both by the owner or operator and by an independent qualified soil scientist, in lieu of an independent qualified Arkansas-registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(f) In addition to the requirements of § 265.117, during the post-closure care period the owner or operator of a land treatment unit must:

- (1) Continue soil-core monitoring by collecting and analyzing samples in a manner and frequency specified in the post-closure plan;
- (2) Restrict access to the unit as appropriate for its post-closure use;
- (3) Assure that growth of food chain crops complies with § 265.276; and
- (4) Control wind dispersal of hazardous waste.

§ 265.281 Special requirements for ignitable or reactive waste

The owner or operator must not apply ignitable or reactive waste to the treatment zone unless the waste and treatment zone meet all applicable requirements of Section 268, and:

- (a) The waste is immediately incorporated into the soil so that:
 - (1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this rule; and
 - (2) Section 264.17(b) is complied with; or
- (b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

§ 265.282 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), must not be placed in the same land treatment area, unless § 265.17(b) is complied with.

Subsection N -- Landfills

§ 265.300 Applicability

The rules in this Subsection apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 265.1 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this Subsection.

§ 265.301 Design and operating requirements

(a) The owner or operator of each new landfill unit, each lateral expansion of a landfill unit, and each replacement of an existing landfill unit must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with § 264.301(c), unless exempted under § 264.301(d), (e), or (f) of this rule.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Director at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement landfill unit is exempt from paragraph (a) of this section if:

- (1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

- (2) There is no reason to believe that the liner is not functioning as designed.
- (d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Director for any monofill, if:
- (1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in § 261.24 of this rule, with EPA Hazardous Waste Numbers D004 through D017; and
 - (2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;
 - (B) The monofill is located more than one-quarter mile from an “underground source of drinking water” (as that term is defined in § 270.2 of this rule); and
 - (C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA section 3005(c); or
 - (ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.
- (e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Director when issuing the first permit to such facility, except that the Director will not be precluded from requiring installation of a new liner when the Director has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.
- (f) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.
- (g) The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.
- (h) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.
- (i) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind must cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

§ 265.302 Action Leakage rate

(a) The owner or operator of landfill units subject to § 265.301(a) must submit a proposed action leakage rate to the Director when submitting the notice required under § 265.301(b). Within 60 days of receipt of the notification, the Director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Director before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner

or operator.

(b) The Director shall approve an action leakage rate for landfill units subject to § 265.301(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 265.304 to an average daily flow rate (gallons per acre per day) for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under § 265.304(b).

[Comment: As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.312, 265.313, and 265.314. As required by § 265.73, the owner or operator must place the results of these analyses in the operating record of the facility.]

§ 265.303 Response actions

(a) The owner or operator of landfill units subject to § 265.301(a) must develop and keep on site until closure of the facility a response action plan. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

- (1) Notify the Director in writing of the exceedance within 7 days of the determination;
- (2) Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;
- (3) Determine to the extent practicable the location, size, and cause of any leak;
- (4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;
- (5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and
- (6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this

section, the owner or operator must:

- (1)(i) Assess the source of liquids and amounts of liquids by source,
 - (ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and
 - (iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or
- (2) Document why such assessments are not needed.

§ 265.304 Monitoring and inspection

(a) An owner or operator required to have a leak detection system under § 265.301(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(c) “Pump operating level” is a liquid level proposed by the owner or operator and approved by the Director based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed “pump operating level” will be in accordance with § 265.302(a).

§§ 265.305 — 265.308 [Reserved]

§ 265.309 Surveying and recordkeeping

The owner or operator of a landfill must maintain the following items in the operating record required in § 265.73:

- (a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and
- (b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

§ 265.310 Closure and post-closure care

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

- (1) Provide long-term minimization of migration of liquids through the closed landfill;
- (2) Function with minimum maintenance;
- (3) Promote drainage and minimize erosion or abrasion of the cover;

- (4) Accommodate settling and subsidence so that the cover's integrity is maintained; and
 - (5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.
- (b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§ 265.117 through 265.120 including maintenance and monitoring throughout the post-closure care period. The owner or operator must:
- (1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;
 - (2) Maintain and monitor the leak detection system in accordance with §§ 264.301(c)(3)(iv) and (4) of this rule and 265.304(b), and comply with all other applicable leak detection system requirements of this Section;
 - (3) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Subsection F of this Section;
 - (4) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and
 - (5) Protect and maintain surveyed benchmarks used in complying with § 265.309.

§ 265.311 [Reserved]

§ 265.312 Special requirements for ignitable or reactive waste

(a) Except as provided in paragraph (b) of this section, and in § 265.316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meets all applicable requirements of 40 CFR part 268 and Section 268 of this rule, and:

- (1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this rule; and
- (2) Section 265.17(b) is complied with.

(b) [Reserved]

§ 265.313 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same landfill cell, unless § 265.17(b) is complied with.

§ 265.314 Special requirements for bulk and containerized liquids

(a) The placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(b) Containers holding free liquids must not be placed in a landfill unless:

- (1) All free-standing liquid,
 - (i) has been removed by decanting, or other methods,
 - (ii) has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or
 - (iii) had been otherwise eliminated; or
- (2) The container is very small, such as an ampule; or
- (3) The container is designed to hold free liquids for use other than storage, such as a

battery or capacitor; or

(4) The container is a lab pack as defined in § 265.316 and is disposed of in accordance with § 265.316.

(c) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095B (Paint Filter Liquids Test) as described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(d) The date for compliance with paragraph (a) of this section is November 19, 1981. The date for compliance with paragraph (c) of this section is March 22, 1982.

(e) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (e)(1) of this section; materials that pass one of the tests in paragraph (e)(2) of this section; or materials that are determined by EPA to be nonbiodegradable through the 40 CFR Part 260 petition process.

(1) Nonbiodegradable sorbents. (i) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller’s earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/ activated carbon); or

(ii) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(iii) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents. (i) The sorbent material is determined to be nonbiodegradable under ASTM Method G21–70 (1984a)—Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22–76 (1984b)—Standard Practice for Determining Resistance of Plastics to Bacteria; or

(iii) The sorbent material is determined to be non-biodegradable under OECD test 301B: [CO₂ Evolution (Modified Sturm Test)].

(f) The placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Director, or the Director determines that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator’s landfill will not present a risk of contamination of any “underground source of drinking water” (as that term is defined in § 270.2 of this rule).

§ 265.315 Special requirements for containers

Unless they are very small, such as an ampule, containers must be either:

- (a) At least 90 percent full when placed in the landfill; or
- (b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

§ 265.316 Disposal of small containers of hazardous waste in overpacked drums (“lab packs”)

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

- (a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178 and 179), if those regulations specify a particular inside container for the waste.
- (b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with §265.314(e) of this rule, to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and sorbent material.
- (c) The sorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers, in accordance with § 265.17(b).
- (d) Incompatible wastes, as defined in § 260.10 of this rule, must not be placed in the same outside container.
- (e) Reactive waste, other than cyanide- or sulfide-bearing waste as defined in § 261.23(a)(5) of this rule, must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive.
- (f) Such disposal is in compliance with the requirements of Section 268. Persons who incinerate lab packs according to the requirements in § 268.42(c)(1) of this rule may use fiber drums in place of metal outer containers. Such fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section.

Subsection O -- Incinerators

§ 265.340 Applicability

- (a) The rules of this Subsection apply to owners and operators of hazardous waste incinerators (as defined in § 260.10 of this rules), except as § 265.1 provides otherwise.
- (b) Integration of the MACT standards:
 - (1) Except as provided by paragraphs (b)(2) and (b)(3) of this subsection, the standards of this section no longer apply when an owner or operator demonstrates compliance with the

maximum achievable control technology (MACT) requirements of 40 CFR Part 63, Subpart EEE, by conducting a comprehensive performance test and submitting to the Administrator a Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR Part 63, Subpart EEE.

(2) The MACT standards do not replace the closure requirements of § 264.351 of this rule or the applicable requirements of subparts A through H, BB and CC of this section.

(3) Section 265.345 generally prohibiting burning of hazardous waste during startup and shutdown remains in effect if you elect to comply with § 270.235(b)(1)(i) of this rule to minimize emissions of toxic compounds from startup and shutdown.

(c) Owners and operators of incinerators burning hazardous waste are exempt from all of the requirements of this Subsection, except § 265.351 (Closure), provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents listed in Section 261, appendix VIII, of this rule, and such documentation is retained at the facility, if the waste to be burned is:

(1) Listed as a hazardous waste in Section 261, Subsection D, of this rule solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(2) Listed as a hazardous waste in Section 261, Subsection D, of this rule solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under Section 261, Subsection C, of this rule; or

(4) A hazardous waste solely because it possesses the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), or (8) of this rule, and will not be burned when other hazardous wastes are present in the combustion zone.

§ 265.341 Waste analysis

In addition to the waste analyses required by § 265.13, the owner or operator must sufficiently analyze any waste which he has not previously burned in his incinerator to enable him to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

[Comment: As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

§§ 265.342 — 265.344 [Reserved]

§ 265.345 General operating requirements

During start-up and shut-down of an incinerator, the owner or operator must not feed hazardous waste unless the incinerator is at steady state (normal) conditions of operation, including steady state operating temperature and air flow.

§ 265.346 [Reserved]

§ 265.347 Monitoring and inspections

The owner or operator must conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(a) Existing instruments which relate to combustion and emission control must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions must be made immediately either automatically or by the operator. Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(b) The complete incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

§§ 265.348 — 265.350 [Reserved]

§ 265.351 Closure

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator. [

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(d) of this rule, that the residue removed from his incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262 through 266 of this rule.]

§ 265.352 Interim status incinerators burning particular hazardous wastes

(a) Owners or operators of incinerators subject to this Subsection may burn EPA Hazardous Wastes F020, F021, F022, F023, F026, or F027 if they receive a certification from the Director that they can meet the performance standards of Subsection O of Section 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify an incinerator:

(1) The owner or operator will submit an application to the Director containing applicable information in §§ 270.19 and 270.62 demonstrating that the incinerator can meet the performance standards in Subsection O of Section 264 when they burn these wastes.

(2) The Director will issue a tentative decision as to whether the incinerator can meet the performance standards in Subsection O of Section 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The Director will accept comment on the tentative decision for 60 days. The Director also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the Director will issue a decision whether or not to certify the incinerator.

§§ 265.353 — 265.369 [Reserved]

Subsection P -- Thermal Treatment

§ 265.370 Other thermal treatment

The rule in this Subsection apply to owners or operators of facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion, except as § 265.1 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements of Subsection O if the unit is an incinerator, and Subsection H of Section 266, if the unit is a boiler or an industrial furnace as defined in § 260.10.

§§ 265.371 — 265.372 [Reserved]

§ 265.373 General operating requirements

Before adding hazardous waste, the owner or operator must bring his thermal treatment process to steady state (normal) conditions of operation — including steady state operating temperature — using auxiliary fuel or other means, unless the process is a non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

§ 265.374 [Reserved]

§ 265.375 Waste analysis

In addition to the waste analyses required by § 265.13, the owner or operator must sufficiently analyze any waste which he has not previously treated in his thermal process to enable him to establish steady state (normal) or other appropriate (for a non-continuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

- (a) Heating value of the waste;
- (b) Halogen content and sulfur content in the waste; and
- (c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

[Comment: As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

§ 265.376 [Reserved]

§ 265.377 Monitoring and inspections

- (a) The owner or operator must conduct, as a minimum, the following monitoring and

inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions must be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, must be observed visually at least hourly for normal appearance (color and opacity). The operator must immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

§§ 265.378 — 265.380 [Reserved]

§ 265.381 Closure

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment process or equipment.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this rule, that any solid waste removed from his thermal treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 265 of this rule.]

§ 265.382 Open burning; waste explosives

Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives must do so in accordance with the following table and in a manner that does not threaten human health or the environment.

| <i>Pounds of waste explosives</i> | <i>Minimum distance from open burning or propellants or detonation to the property of others</i> |
|-----------------------------------|--|
|-----------------------------------|--|

| | |
|-----------------|--------------------------|
| 0 to 100 | 204 meters (670 feet). |
| 101 to 1,000 | 380 meters (1,250 feet). |
| 1,001 to 10,000 | 530 meters (1,730 feet). |

10,001 to 30,000

690 meters (2,260 feet).

The open burning or the open detonation of hazardous wastes on unprotected ground surfaces is prohibited. Open burning or open detonation of wastes must be conducted in or on a containment device elevated above ground level. The containment device must be sufficiently impermeable so as to prevent the leaching or migration of waste residues into the soil beneath or around the containment device. The design shall be such that protection against stormwater or other run-on or run-off is provided. Open burning of hazardous wastes shall not be allowed when alternate technologies are available and feasible. Applicants for a permit for open burning or open detonation of hazardous wastes shall be required to demonstrate that no reasonable alternative to open burning or detonation exists prior to the approval of such a permit.

§ 265.383 Interim status thermal treatment devices burning particular hazardous waste

(a) Owners or operators of thermal treatment devices subject to this Subsection may burn EPA Hazardous Wastes F020, F021, F022, F023, F026, or F027 if they receive a certification from the Director that they can meet the performance standards of Subsection O of Section 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify a thermal treatment unit:

(1) The owner or operator will submit an application to the Director containing the applicable information in §§ 270.19 and 270.62 demonstrating that the thermal treatment unit can meet the performance standard in Subsection O of Section 264 when they burn these wastes.

(2) The Director will issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in Subsection O of Section 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The Director will accept comment on the tentative decision for 60 days. The Director also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the Director will issue a decision whether or not to certify the thermal treatment unit.

Subsection Q -- Chemical, Physical, and Biological Treatment

§ 265.400 Applicability

The rule in this Subsection apply to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as § 265.1 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must be conducted in accordance with Subsections J, K, and M, respectively.

§ 265.401 General operating requirements

(a) Chemical, physical, or biological treatment of hazardous waste must comply with §

265.17(b).

(b) Hazardous wastes or treatment reagents must not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Where hazardous waste is continuously fed into a treatment process or equipment, the process or equipment must be equipped with a means to stop this inflow (e.g., a waste feed cut-off system or by-pass system to a standby containment device).

[Comment: These systems are intended to be used in the event of a malfunction in the treatment process or equipment.]

§ 265.402 Waste analysis and trial tests

(a) In addition to the waste analysis required by § 265.13, whenever:

(1) A hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or

(2) A substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste; the owner or operator must, before treating the different waste or using the different process or equipment: 1) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or 2) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this proposed treatment will meet all applicable requirements of § 265.401 (a) and (b).

[Comment: As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.405 and 265.406. As required by § 265.73, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.]

§ 265.403 Inspections

(a) The owner or operator of a treatment facility must inspect, where present:

(1) Discharge control and safety equipment (e.g., waste feed cut-off systems, by-pass systems, drainage systems, and pressure relief systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(3) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(4) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

[Comment: As required by § 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.]

§ 265.404 Closure

At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3 (c) or (d) of this rule, that any solid waste removed from his treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Sections 262, 263, and 265 of this rule.]

§ 265.405 Special requirements for ignitable or reactive waste

- (a) Ignitable or reactive waste must not be placed in a treatment process or equipment unless:
 - (1) The waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that
 - (i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or 261.23 or this rule, and
 - (ii) § 265.17(b) is complied with; or
 - (2) The waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

§ 265.406 Special requirements for incompatible wastes

- (a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same treatment process or equipment, unless § 265.17(b) is complied with.
- (b) Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless § 265.17(b) is complied with.

Subsection R -- Underground Injection

§ 265.430 Applicability

Except as § 265.1 provides otherwise:

- (a) The owner or operator of a facility which disposes of hazardous waste by underground injection is excluded from the requirements of Subsections G and H of this Section.
- (b) The requirements of this Subsection apply to owners and operators of wells used to dispose of hazardous waste which are classified as Class I under 40 CFR 144.6(a) of this rule and which are classified as Class IV under 40 CFR 144.6(d).

[Comment: In addition to the requirements of Subsections A through E of this Section, the owner or operator of a facility which disposes of hazardous waste by underground injection ultimately must comply with the requirements of §§ 265.431 through 265.437. These sections are reserved at this time. EPA and Division will propose rules that would establish those requirements.]

Subsections S-V [Reserved]

Subsection W -- Drip Pads

§ 265.440 Applicability

- (a) The requirements of this Subsection apply to owners and operators of facilities that use new

or existing drip pads to convey treated wood drippage, precipitation, and/or surface water run-off to an associated collection system . Existing drip pads are those constructed before December 6, 1990, and those for which the owner or operator has final design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement at § 265.443(b)(3) to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992, except for those constructed after December 24, 1992 for which the owner or operator has a final design and has entered into binding financial or other agreements for construction prior to December 24, 1992.

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to regulation under § 265.443(e) or § 265.443(f), as appropriate.

(c) The requirements of this subsection are not applicable to the management of infrequent and incidental drippage in storage yards provided that:

(1) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the owner or operator will do the following:

- (i) Clean up the drippage;
- (ii) Document the cleanup of the drippage;
- (iii) Retain documents regarding the cleanup for a minimum of three years;
- (iv) Manage the contaminated media in a manner consistent with this Rule.

§ 265.441 Assessment of existing drip pad integrity

(a) For each existing drip pad as defined in § 265.440, the owner or operator must evaluate the drip pad and determine that it meets all of the requirements of this Subsection, except the requirements for liners and leak detection systems of § 265.443(b). No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an *independent, qualified Arkansas-registered professional engineer* that attests to the results of the evaluation. The assessment must be reviewed, updated and re-certified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of § 265.443 are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of § 265.443, except the standards for liners and leak detection systems, specified in § 265.443(b).

(b) *For immediate protection of the environment, all existing drip pads must have an impermeable (as specified at § 265.443(a)(4)(i)) coating or cover in place not later than September 30, 1995.* In addition, the owner or operator must develop a written plan for upgrading, repairing, and modifying of the drip pad to meet the requirements of § 265.443(b), and submit the plan to the Director no later than 2 years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of § 265.443. The plan must be reviewed and certified by an *independent qualified Arkansas-registered professional engineer*.

Note: A properly installed and maintained drip pad coating which is installed to meet the September 30, 1995 deadline should satisfy the eventual coating option of § 265.443(a)(4).

(c) Upon completion of all, repairs, and modifications, the owner or operator must submit to the

Director, the as-built drawings for the drip pad together with a certification by an *independent, qualified Arkansas-registered professional engineer* attesting that the drip pad conforms to the drawings.

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of § 265.443(m) of this Subsection or close the drip pad in accordance with § 265.445 of this Subsection.

§ 265.442 Design and installation of new drip pads

Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following:

(a) All of the applicable requirements of §§ 265.443 (except 264.443(a)(4)), 265.444 and 265.445 of this Subsection, or

(b) All of the applicable requirements of §§ 265.443 (except 265.443(b)), 265.444 and 265.445 of this Subsection.

§ 265.443 Design and operating requirements

(a) Drip pads must:

(1) Be constructed of non-earthen materials, excluding wood and non-structurally supported asphalt;

(2) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;

(3) Have a curb or berm around the perimeter;

(4)(i) Have a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second, e.g., existing concrete drip pads must be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing all such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material must be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material must be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply to existing drip pads, and those drip pads for which the owner or operator elects to comply with § 265.442(b) instead of § 265.442(a). *Penetrating sealants are not adequate to meet this coating or cover requirement.*

(ii) The owner or operator must obtain and keep on file at the facility a written assessment (§ 265.443) of the drip pad, reviewed and certified by an *independent, qualified, Arkansas-registered professional engineer* that attests to the results of the evaluation. This assessment must be renewed, updated, and recertified annually. The evaluation must document the extent to which the drip pad meets the design and operating standards of this Subsection, except for paragraph (b) of this section.

Note: The requirement that existing drip pads be impermeable, e.g., that drip pads be sealed, coated, or covered with an impermeable material was in the past administratively stayed. The stay remained in effect until October 30, 1992. All existing drip pads, regardless of age, must have an impermeable coating or cover in place by September 30, 1995.

(5) Be of sufficient structural strength and thickness to prevent failure due to physical

contact, climatic conditions, the stress of installation, and the stress of daily operations, e.g., variable and moving loads such as vehicle traffic, movement of wood, etc.

Note: The Division will generally consider applicable standards established by professional organizations generally recognized by industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirement of this paragraph.

(b) If an owner/operator elects to comply with 265.442(a) instead of 265.442(b), the drip pad must have:

(1) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner and prevent releases into the adjacent subsurface soil or ground water or surface water during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(iii) Installed to cover all surrounding earth that could come in contact with the waste or leakage; and

(2) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad; and

(ii) Designed and operated to function without clogging through the scheduled closure of the drip pad.

(iii) Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(3) A leakage collection system immediately above the liner that is designed, constructed, maintained, and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed must be documented in the operating log.

(c) Drip pads must be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.

Note: See § 265.443(m) for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system must be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(e) Unless protected by a structure, as described in § 265.440(b) of this subpart, the owner or

operator must design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm unless the system has sufficient excess capacity to contain any run-on that might enter the system, or the drip pad is protected by a structure or cover, as described in § 265.440(b) of this subpart.

(f) Unless protected by a structure or cover, as described in § 265.440(b) of this subpart, the owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(g) The drip pad must be evaluated to determine that it meets the requirements of paragraphs (a) through (f) of this section and the owner or operator must obtain a statement from an *independent, qualified Arkansas-registered professional engineer* certifying that the drip pad design meets the requirements of this section.

(h) Drillage and accumulated precipitation must be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface must be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous wastes or other materials on the drip pad. The owner or operator must document the date and time of each cleaning and the cleaning and the cleaning procedure used in the facility's operating log. The owner/operator must determine if the residues are hazardous as per § 262.11 and, if so, must manage them under Sections 261-279 of this rule.

(j) Drip pads must be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and non-pressure processes must be held on the drip pad until drillage has ceased. The owner or operator must maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with run-on and run-off control systems must be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time following discovery, in accordance with the following procedures:

(1) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage by the leak detection system), the owner or operator must:

- (i) Enter a record of the discovery in the facility operating log;
- (ii) Immediately remove the portion of the drip pad affected by the condition from service;
- (iii) Determine what steps must be taken to repair the drip pad, remove any leakage from below the drip pad, and establish a schedule for accomplishing the clean up and repairs;
- (iv) Within 24 hours after discovery of the condition, notify the Director of the

condition and, within 10 working days, provide a written notice to the Director with a description of the steps that will be taken to repair the drip pad, and clean up any leakage, and the schedule for accomplishing this work.

(2) The Director will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and clean up are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing all repairs and clean up, the owner or operator must notify the Director in writing and provide a certification, signed by an independent qualified, Arkansas-registered professional engineer, that the repairs and clean up have been completed according to the written plan submitted in accordance with paragraph (m)(1)(iv) of this section.

(n) The owner or operator must maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This must include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

§ 265.444 Inspections

(a) During construction or installation, liners and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation, liners must be inspected and certified as meeting the requirements of § 265.443 by an *independent qualified, Arkansas-registered professional engineer*. The certification must be maintained at the facility as part of the facility operating record. After installation liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters.

(b) While a drip pad is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

- (1) Deterioration, malfunctions or improper operation of run-on and run-off control systems;
- (2) The presence of leakage in and proper functioning of leakage detection system.
- (3) Deterioration or cracking of the drip pad surface.

Note: See § 265.443(m) for remedial action required if deterioration or leakage is detected.

§ 265.445 Closure

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practically removed or decontaminated, he must close the facility and perform post-closure care in accordance with closure and post-closure care requirements that apply to landfills (§ 265.310). For permitted units, the requirement to have a permit continues throughout the post-closure period.

(c)(1) The owner or operator of an existing drip pad, as defined in § 265.440 of this subpart, that does not comply with the liner requirements of § 265.443(b)(1) must:

(i) Include in the closure plan for the drip pad under § 265.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent post-closure plan under § 265.118 of this part for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 265.112 and 265.144 of this part for closure and post-closure care of a drip pad subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

Subsections X-Z [Reserved]

Subsection AA -- Air Emission Standards for Process Vents

§ 265.1030 Applicability

(a) The rules in this Subsection apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 265.1 of this rule).

(b) Except for §§ 265.1034, paragraphs (d) and (e), this Subsection applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following:

(1) A unit that is subject to the permitting requirements of § 270 of this rule, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of § 262.17 of this rule (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of § 270, or

(3) A unit that is exempt from permitting under the provisions of § 262.17 (i.e., a “90-day” tank or container) and is not a recycling unit under the requirements of § 261.6.

[Note: The requirements of §§ 265.1032 through 265.1036 apply to process vents on hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under §§ 261.4 and 265.1(c) are not affected by these requirements.]

(c) [Reserved]

(d) The requirements of this subsection do not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this subsection are equipped with and operating air emission controls in accordance with the process vent requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with, or made readily available with, the facility operating record.

§ 265.1031 Definitions

As used in this Subsection, all terms shall have the meaning given them in § 264.1031, RCRA, the Act, and Sections 260-266 of this rule.

§ 265.1032 Standards: Process vents

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations managing hazardous wastes with organic concentrations at least 10 ppmw shall either:

- (1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or
- (2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section, the closed-vent system and control device must meet the requirements of § 265.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of § 265.1034(c).

(d) When an owner or operator and the Director do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the test methods in § 265.1034(c) shall be used to resolve the disagreement.

§ 265.1033 Standards: Closed-vent systems and control devices

(a)(1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this Section shall comply with the provisions of this section.

(2)(i) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subsection on the effective date that the facility becomes subject to the requirements of this subsection must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subsection for installation and startup.

(ii) Any unit that begins operation after December 21, 1990, and is subject to the requirements of this subsection when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply.

(iii) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subsection shall comply with all requirements of this subsection as soon as practicable but no later than 30 months after the amendment's effective date. When control

equipment required by this subsection can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subsection. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(iv) Owners and operators of facilities and units that become newly subject to the requirements of this subsection after December 8, 1997, due to an action other than those described in paragraph (a)(2)(iii) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subsection; the 30-month implementation schedule does not apply).

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of § 265.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame combustion zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 264.2 MJ/scm (300 Btu/scf) or greater, if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 260.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, of less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit

velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(4) of this section, and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this Subsection. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left[\sum_{i=1}^n C_i H_i \right]$$

where:

H_T =Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C;

K =Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C;

C_i =Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in § 260.11); and

H_i =Net heat of combustion of sample component i , kcal/g mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as specified in § 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{\max} , for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$\text{Log}_{10}(V_{\max}) = (H_T + 28.8) / 31.7$$

where:

H_T =The net heating value as determined in paragraph (e)(2) of this section.

28.8=Constant,

31.7=Constant.

(5) The maximum allowed velocity in m/s, V_{\max} , for an air-assisted flare shall be determined by the following equation:

$$V_{\max} = 8.706 + 0.7084 (H_T)$$

where:

8.706 = Constant.

0.7084 = Constant.

H_T = The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius ($^{\circ}\text{C}$) or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side).

(vii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly in the control device, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f) (1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of § 265.1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of § 265.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of § 265.1035 (b)(4)(iii)(G).

(i) An owner or operator of an affected facility seeking to comply with the provisions of this Section by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of

the control device.

(j) A closed-vent system shall meet either of the following design requirements:

(1) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in § 265.1034(b) of this subsection, and by visual inspections; or

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(k) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

(1) Each closed-vent system that is used to comply with paragraph (j)(1) of this section shall be inspected and monitored in accordance with the following requirements:

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to this section. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in § 265.1034(b) of this subsection to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(ii) After initial leak detection monitoring required in paragraph (k)(1)(i) of this section, the owner or operator shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in § 265.1034(b) of this subsection to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

(B) Closed-vent system components or connections other than those specified in paragraph (k)(1)(i)(A) of this section shall be monitored annually and at other times as requested by the Director, except as provided for in paragraph (n) of this section, using the procedures specified in § 265.1034(b) of this subsection to demonstrate that the components or connections operate with no detectable emissions.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of paragraph (k)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in § 265.1035 of this subsection.

(2) Each closed-vent system that is used to comply with paragraph (j)(2) of this section shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not

limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections.

(ii) The owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in § 265.1035 of this subsection.

(3) The owner or operator shall repair all detected defects as follows:

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in paragraph (k)(3)(iii) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(iv) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in § 265.1035 of this subsection.

(l) Closed-vent systems and control devices used to comply with provisions of this subsection shall be operated at all times when emissions may be vented to them.

(m) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(i) The owner or operator of the unit has been issued a final permit under § 270 which implements the requirements of § 264 subsection X; or

(ii) The unit is equipped with and operating air emission controls in accordance with the applicable requirements of subsections AA and CC of either this section or of § 264; or

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

(2) Incinerated in a hazardous waste incinerator for which the owner or operator either:

(i) Has been issued a final permit under § 270 which implements the requirements of § 264, subsection O; or

(ii) Has designed and operates the incinerator in accordance with the interim status requirements of subsection O of this section.

(3) Burned in a boiler or industrial furnace for which the owner or operator either:

(i) Has been issued a final permit under § 270 which implements the requirements of § 266, subsection H; or

- (ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of § 266, subsection H.
- (n) Any components of a closed-vent system that are designated, as described in § 265.1035(c)(9) of this subsection, as unsafe to monitor are exempt from the requirements of paragraph (k)(1)(ii)(B) of this section if:
 - (1) The owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (k)(1)(ii)(B) of this section; and
 - (2) The owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in paragraph (k)(1)(ii)(B) of this section as frequently as practicable during safe-to-monitor times.

§ 265.1034 Test methods and procedures.

- (a) Each owner or operator subject to the provisions of this Subsection shall comply with the test methods and procedures requirements provided in this section.
- (b) When a closed-vent system is tested for compliance with no detectable emissions, as required in § 265.1033(k) of this subsection, the test shall comply with the following requirements:
 - (1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.
 - (2) The detection instrument shall meet the performance criteria of Reference Method 21.
 - (3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.
 - (4) Calibration gases shall be:
 - (i) Zero air (less than 10 ppm of hydrocarbon in air).
 - (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
 - (5) The background level shall be determined as set forth in Reference Method 21.
 - (6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.
 - (7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.
- (c) Performance tests to determine compliance with § 265.1032(a) and with the total organic compound concentration limit of § 265.1033(c) shall comply with the following:
 - (1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:
 - (i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.
 - (ii) Method 18 or Method 25A in 40 CFR part 60 for organic content. If Method 25A is used, the organic HAP used as the calibration gas must be the single organic HAP representing the largest percent by volume of the emissions. The use of Method 25A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.
 - (iii) Each performance test shall consist of three separate runs; each run conducted for

at least 1 hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.

(iv) Total organic mass flow rates shall be determined by the following equation:

(A) For sources utilizing Method 18:

$$E_h = Q_{2sd} \left\{ \sum_{i=1}^n C_i MW_i \right\} [0.0416] [10^{-6}]$$

where:

E_h =Total organic mass flow rate, kg/h;

Q_{2sd} =Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n =Number of organic compounds in the vent gas;

C_i =Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i =Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416=Conversion factor for molar volume, kg-mol/m³ (@ 293 K and 760 mm Hg);

10⁻⁶=Conversion from ppm.

(B) For sources utilizing Method 25A.

$$E_h = (Q)(C)(MW)(0.0416)(10^{-6})$$

Where:

E_h = Total organic mass flow rate, kg/h;

Q = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

C = Organic concentration in ppm, dry basis, as determined by Method 25A;

MW = Molecular weight of propane, 44;

0.0416 = Conversion factor for molar volume, kg-mol/m³ (@ 293 K and 760 mm Hg);

10⁻⁶ = Conversion from ppm.

(v) The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_h) (H)$$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h , as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A , as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Director's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this Subsection, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been

transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060A (incorporated by reference under § 260.11) of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846; or analyzed for its individual organic constituents.

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this Subsection or by the date when the waste is first managed in a waste management unit, whichever is later; and

(2) For continuously generated waste, annually; or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Director do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the dispute may be resolved using direct measurement as specified at paragraph (d)(1) of this subsection.

§ 265.1035 Recordkeeping requirements

(a)(1) Each owner or operator subject to the provisions of this Subsection shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this Subsection may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of § 265.1033(a)(2), an implementation

schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this Subsection.

(2) Up-to-date documentation of compliance with the process vent standards in § 265.1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan); and

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturer's name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control device.

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with § 265.1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records, including the dates, of each compliance test required by § 265.1033(j).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of “APTI Course 415: Control of Gaseous Emissions” (incorporated by reference as specified in § 260.11) or other engineering texts acceptable to the Director that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in § 265.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control

device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of § 265.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of § 265.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this Section shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with § 265.1033(f)(1) and (f)(2).

(3) Monitoring, operating and inspection information required by paragraphs (f) through (k) of § 265.1033 of this subsection.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760°C, period when the combustion temperature is below 760°C.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 percent or greater, period when the combustion zone temperature is more than 28°C below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28°C below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section; or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28°C below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section; or

(B) Position changes where the vent stream is introduced to the combustion zone

from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

(v) For a flare, period when the pilot flame is not ignited.

(vi) For a condenser that complies with § 265.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(vii) For a condenser that complies with § 265.1033(f)(2)(vi)(B), period when:

(A) Temperature of the exhaust vent stream from the condenser is more than 6 °C above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or

(B) Temperature of the coolant fluid exiting the condenser is more than 6 °C above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(viii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 265.1033(f)(2)(vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 265.1033(f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(5) Explanation for each period recorded under paragraph (c)(4) of this section of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For carbon adsorption systems operated subject to requirements specified in § 265.1033(g) or § 265.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.

(7) For carbon adsorption systems operated subject to requirements specified in § 265.1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device startup and shutdown.

(9) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to § 265.1033(n) of this subsection shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of § 265.1033(n) of this subsection, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent

system component.

(10) When each leak is detected as specified in § 265.1033(k) of this subsection, the following information shall be recorded:

- (i) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.
- (ii) The date the leak was detected and the date of first attempt to repair the leak.
- (iii) The date of successful repair of the leak.
- (iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.
- (v) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(10) of this section shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in § 265.1032 including supporting documentation as required by § 265.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

§§ 265.1036 — 265.1049 [Reserved]

Subsection BB -- Air Emission Standards for Equipment Leaks

§ 265.1050 Applicability

(a) The rules in this Subsection apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 265.1 of this subsection).

(b) Except as provided in § 265.1064(j), this Subsection applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following:

- (1) A unit that is subject to the permitting requirements of § 270 of this rule, or
- (2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of § 262.17 of this rule (i.e., a hazardous waste recycling unit that is not

a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of § 270, or

(3) A unit that is exempt from permitting under the provisions of § 262.17 (i.e., a 90-day tank or container) and is not a recycling unit under the provisions of § 261.6.

(c) Each piece of equipment to which this Subsection applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(d) Equipment that is in vacuum service is excluded from the requirements of § 265.1052 to § 265.1060 if it is identified as required in § 265.1064(g)(5).

(e) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of § 265.1052 through § 265.1060 of this subsection if it is identified as required in § 265.1064(g)(6) of this subsection.

[Note: The requirements of §§ 265.1052 through 265.1064 apply to equipment associated with hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under §§ 261.4 and 265.1(c) are not affected by these requirements.]

(f) Reserved.

(g) Purged coatings and solvents from surface coating operations subject to the national emission standards for hazardous air pollutants (NESHAP) for the surface coating of automobiles and light-duty trucks at 40 CFR Part 63, subpart IIII, are not subject to the requirements of this subsection.

§ 265.1051 Definitions

As used in this Subsection, all terms shall have the meaning given them in § 264.1031, the Act, and Sections 260-266.

§ 265.1052 Standards: Pumps in light liquid service

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 265.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), provided the following requirements are met:

(1) Each dual mechanical seal system must be:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or

(ii) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of § 265.1060, or

- (iii) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.
- (2) The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.
- (3) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system or both.
- (4) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.
- (5)(i) Each sensor as described in paragraph (d)(3) of this section must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.
 - (ii) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
- (6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.
 - (ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.
 - (iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.
- (e) Any pump that is designated, as described in § 265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:
 - (1) Must have no externally actuated shaft penetrating the pump housing.
 - (2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 265.1063(c).
 - (3) Must be tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times as requested by the Director.
- (f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of § 265.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

§ 265.1053 Standards: Compressors

- (a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.
- (b) Each compressor seal system as required in paragraph (a) of this section shall be:
 - (1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or
 - (2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of § 265.1060, or
 - (3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with

no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of § 265.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 265.1064(g)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Director.

§ 265.1054 Standards: Pressure relief devices in gas/vapor service

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 265.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing

and transporting leakage from the pressure relief device to a control device as described in § 265.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

§ 265.1055 Standards: Sampling connecting systems

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

- (1) Return the purged process fluid directly to the process line; or
- (2) Collect and recycle the purged process fluid; or
- (3) Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of § 265.1085 through § 265.1087 of this subsection or a control device that complies with the requirements of § 265.1060 of this subsection.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 265.1056 Standards: Open-ended valves or lines

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

§ 265.1057 Standards: Valves in gas/vapor service or in light liquid service

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in § 265.1063(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section' and §§ 265.1061 and 265.1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15

calendar days after the leak is detected, except as provided in § 265.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

- (1) Tightening of bonnet bolts.
- (2) Replacement of bonnet bolts.
- (3) Tightening of packing gland nuts.
- (4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

- (1) Has no external actuating mechanism in contact with the hazardous waste stream.
- (2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 265.1063(c).
- (3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Director.

(g) Any valve that is designated, as described in § 265.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

- (1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.
- (2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 265.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

- (1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.
- (2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.
- (3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 265.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid service, and flanges and other connectors

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in § 265.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is

detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 265.1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of paragraph (a) of this section and from the recordkeeping requirements of § 265.1064 of this subsection.

§ 265.1059 Standards: Delay of repair

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 265.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

§ 265.1060 Standards: Closed-vent systems and control devices

(a) Owners and operators of closed-vent systems and control devices subject to this subsection shall comply with the provisions of § 265.1033 of this section.

(b)(1) The owner or operator of an existing facility who can not install a closed-vent system and control device to comply with the provisions of this subsection on the effective date that the facility becomes subject to the provisions of this subsection must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subsection for installation and startup.

(2) Any units that begin operation after December 21, 1990, and are subject to the provisions of this subsection when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply.

(3) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subsection shall comply with all requirements of this subsection as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subsection can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subsection. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility.

(4) Owners and operators of facilities and units that become newly subject to the requirements of this subsection after December 8, 1997 due to an action other than those described in paragraph (b)(3) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subsection; the 30-month implementation schedule does not apply).

§ 265.1061 Alternative standards for valves in gas/vapor service or in light liquid service; percentage of valves allowed to leak

(a) An owner or operator subject to the requirements of § 265.1057 of this rule may elect to have all valves within a hazardous waste management unit comply with an alternative standard which allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Director.

(2) If a valve leak is detected, it shall be repaired in accordance with § 265.1057(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in § 265.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in § 265.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in § 265.1057 for which leaks are detected by the total number of valves subject to the requirements in § 265.1057 within the hazardous waste management unit.

§ 265.1062 Alternative standards for valves in gas/vapor or in light liquid service; skip period leak detection and repair

(a) An owner or operator subject to the requirements of § 265.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in paragraphs (b) (2) and (3) of this section.

(b)(1) An owner or operator shall comply with the requirements for valves, as described in § 265.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every six months) for the valves subject to the requirements in § 265.1057 of this subsection.

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip three of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to the requirements in § 265.1057 of this subsection.

(4) If the percentage of valves leaking is greater than 2 percent, the owner or operators shall monitor monthly in compliance with the requirements in § 265.1057, but may again elect to use this section after meeting the requirements of § 265.1057(c)(1).

§ 265.1063 Test methods and procedures

(a) Each owner or operator subject to the provisions of this Subsection shall comply with the test methods and procedures requirements provided in this section.

(b) Leak detection monitoring, as required in §§ 265.1052–265.1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions, as required in §§ 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by § 265.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the

following:

- (1) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85 (incorporated by reference under § 260.11 of this rule);
 - (2) Method 9060A (incorporated by reference under § 260.11 of this Rule) of “Test Methods for Evaluating Solid Waste,” EPA Publication SW-846 or analyzed for its individual organic constituents; or
 - (3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.
- (e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.
- (f) When an owner or operator and the Director do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.
- (g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.
- (h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under § 260.11).
- (i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of § 265.1034 (c)(1) through (c)(4).

§ 265.1064 Recordkeeping requirements

- (a)(1) Each owner or operator subject to the provisions of this Subsection shall comply with the recordkeeping requirements of this section.
- (2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this Subsection may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.
- (b) Owners and operators must record the following information in the facility operating record:
- (1) For each piece of equipment to which Subsection BB of Section 265 applies:
 - (i) Equipment identification number and hazardous waste management unit identification.
 - (ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).
 - (iii) Type of equipment (e.g., a pump or pipeline valve).

- (iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.
- (v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).
- (vi) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(2) For facilities that comply with the provisions of § 265.1033(a)(2), an implementation schedule as specified in § 265.1033(a)(2).

(3) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in § 265.1035(b)(3).

(4) Documentation of compliance with § 265.1060, including the detailed design documentation or performance test results specified in § 265.1035(b)(4).

(c) When each leak is detected as specified in §§ 265.1052, 265.1053, 265.1057, and 265.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with § 265.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 265.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in §§ 265.1052, 265.1053, 265.1057, and 265.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with § 265.1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) “Above 10,000” if the maximum instrument reading measured by the methods specified in § 265.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with § 265.1059(c).

(8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of § 265.1060 shall be recorded and kept up-to-date in the facility operating record as specified in § 265.1035(c). Design documentation is specified in § 265.1035 (c)(1) and (c)(2) and monitoring, operating, and

inspection information in § 265.1035 (c)(3)-(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(g) The following information pertaining to all equipment subject to the requirements in §§ 265.1052 through 265.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this Subsection.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of §§ 265.1052(e), 265.1053(i), and 265.1057(f).

(ii) The designation of this equipment as subject to the requirements of §§ 265.1052(e), 265.1053(i), or 265.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 265.1054(a).

(4)(i) The dates of each compliance test required in §§ 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per calendar year.

(h) The following information pertaining to all valves subject to the requirements of § 265.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with § 265.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in §§ 265.1052(d)(5)(ii) and 265.1053(e)(2) and an explanation of the criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating

record for use in determining exemptions as provided in the applicability section of this Subsection and other specific Subsections:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in §§ 265.1052 through 265.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§ 265.1052 through 265.1060. The record shall include supporting documentation as required by § 265.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in §§ 265.1052 through 265.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) The owner or operator of any facility with equipment that is subject to this subsection and to leak detection, monitoring, and repair requirements under regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this subsection either by documentation pursuant to § 265.1064 of this subsection, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 pursuant to the relevant provisions of the regulations at 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulation at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record.

§§ 265.1065 — 265.1079 [Reserved]

Subsection CC—Air Emission Standards for Tanks, Surface Impoundments, and Containers

§ 265.1080 Applicability

(a) The requirements of this subsection apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either Subsection I, J, or K of this Section except as § 265.1 and paragraph (b) of this section provide otherwise.

(b) The requirements of this subsection do not apply to the following waste management units at the facility:

(1) A waste management unit that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996.

(2) A container that has a design capacity less than or equal to 0.1 m³.

(3) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved

closure plan.

(4) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(5) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as the result of implementing remedial activities required under the RCRA corrective action authorities of 3004(u), 3004(v) or 3008(h), CERCLA authorities, or similar Federal or State authorities.

(6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(7) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, must be in compliance with the enclosure and control device requirements of § 265.1085(i), except as provided in § 265.1083(c)(5).

(8) A tank that has a process vent as defined in § 264.1031.

(c) For the owner and operator of a facility subject to this subsection who has received a final permit under RCRA section 3005 prior to December 6, 1996, the following requirements apply:

(1) The requirements of Section 264, subsection CC shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 40 CFR 124.15 or reviewed in accordance with the requirements of § 270.50(d).

(2) Until the date when the permit is reissued in accordance with the requirements of 40 CFR 124.15 or reviewed in accordance with the requirements of § 270.50(d), the owner and operator is subject to the requirements of this subsection.

(d) The requirements of this subsection, except for the recordkeeping requirements specified in § 265.1090(i) of this subsection, are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(1) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this paragraph, “organic peroxide” means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(2) The owner or operator prepares documentation, in accordance with the requirements of § 265.1090(i) of this subsection, explaining why an undue safety hazard would be created if air emission controls specified in §§ 265.1085 through 265.1088 of this subsection are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the

conditions of paragraph (d)(1) of this section.

(3) The owner or operator notifies the Director in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section are managed at the facility in tanks or containers meeting the conditions of paragraph (d)(2) of this section. The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

§ 265.1081 Definitions

As used in this subsection, all terms not defined herein shall have the meaning given to them in the Act and Sections 260 through 266 of this rule.

“Average volatile organic concentration” or “average VO concentration” means the mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of § 265.1084 of this subsection.

“Closure device” means a cap, hatch, lid, plug, seal, valve, or other type of fitting that blocks an opening in a cover such that when the device is secured in the closed position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

“Continuous seal” means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

“Cover” means a device that provides a continuous barrier over the hazardous waste managed in a unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings (such as access hatches, sampling ports, gauge wells) that are necessary for operation, inspection, maintenance, and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

“Enclosure” means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapors through a closed-vent system to a control device.

“External floating roof” means a pontoon-type or double-deck type cover that rests on the surface of the material managed in a tank with no fixed roof.

“Fixed roof” means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the material managed in the unit.

“Floating membrane cover” means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

“Floating roof” means a cover consisting of a double deck, pontoon single deck, or internal floating cover which rests upon and is supported by the material being contained, and is equipped with a continuous seal.

“Hard-piping” means pipe or tubing that is manufactured and properly installed in accordance with relevant standards and good engineering practices.

“In light material service” means the container is used to manage a material for which both of

the following conditions apply: The vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20°C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight.

“Internal floating roof” means a cover that rests or floats on the material surface (but not necessarily in complete contact with it) inside a tank that has a fixed roof.

“Liquid-mounted seal” means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

“Malfunction” means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

“Maximum organic vapor pressure” means the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor pressure-causing conditions (i.e., temperature, agitation, pH effects of combining wastes, etc.) reasonably expected to occur in the tank. For the purpose of this subpart, maximum organic vapor pressure is determined using the procedures specified in § 265.1084(c) of this subsection.

“Metallic shoe seal” means a continuous seal that is constructed of metal sheets which are held vertically against the wall of the tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

“No detectable organic emissions” means no escape of organics to the atmosphere as determined using the procedure specified in § 265.1084(d) of this subsection.

“Point of waste origination” means as follows:

(1) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as defined in Section 261.

[Note: In this case, this term is being used in a manner similar to the use of the term “point of generation” in air standards established for waste management operations under authority of the Clean Air Act in 40 CFR Parts 60, 61, and 63].

(2) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

“Point of waste treatment” means the point where a hazardous waste to be treated in accordance with § 265.1083(c)(2) of this subsection exits the treatment process. Any waste determination shall be made before the waste is conveyed, handled, or otherwise managed in a manner that allows the waste to volatilize to the atmosphere.

“Safety device” means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subsection, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position

during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

“Single-seal system” means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted, or a metallic shoe seal.

“Vapor-mounted seal” means a continuous seal that is mounted such that there is a vapor space between the hazardous waste in the unit and the bottom of the seal.

“Volatile organic concentration” or “VO concentration” means the fraction by weight of the volatile organic compounds contained in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement or by knowledge of the waste in accordance with the requirements of § 265.1084 of this subsection. For the purpose of determining the VO concentration of a hazardous waste, organic compounds with a Henry’s law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in the liquid-phase ($0.1 Y/X$) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/ m^3] at 25 degrees Celsius must be included. Appendix VI of this subsection presents a list of compounds known to have a Henry’s law constant value less than the cutoff level.

“Waste determination” means performing all applicable procedures in accordance with the requirements of § 265.1084 of this subsection to determine whether a hazardous waste meets standards specified in this subsection. Examples of a waste determination include performing the procedures in accordance with the requirements of § 265.1084 of this subsection to determine the average VO concentration of a hazardous waste at the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

“Waste stabilization process” means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9095B (Paint Filter Liquids Test) in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” as incorporated by reference in § 260.11 of this rule. A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are “waste fixation” or “waste solidification.” This does not include the adding of absorbent materials to the surface of a waste, without mixing, agitation, or subsequent curing, to absorb free liquid.

§ 265.1082 Schedule for implementation of air emission standards

(a) Owners or operators of facilities existing on December 6, 1996, and subject to Subsections I, J, and K of this Section shall meet the following requirements:

(1) Install and begin operation of all control equipment or waste management units required to comply with this subsection and complete modifications of production or treatment

processes to satisfy exemption criteria in accordance with § 265.1083(c) of this subsection by December 6, 1996, except as provided for in paragraph (a)(2) of this section.

(2) When control equipment or waste management units required to comply with this subsection cannot be installed and in operation or modifications of production or treatment processes to satisfy exemption criteria in accordance with § 265.1083(c) of this subsection cannot be completed by December 6, 1996, the owner or operator shall:

(i) Install and begin operation of the control equipment and waste management units, and complete modifications of production or treatment processes as soon as possible but no later than December 8, 1997.

(ii) Prepare an implementation schedule that includes the following information: specific calendar dates for award of contracts or issuance of purchase orders for control equipment, waste management units, and production or treatment process modifications; initiation of on-site installation of control equipment or waste management units, and modifications of production or treatment processes; completion of control equipment or waste management unit installation, and production or treatment process modifications; and performance of testing to demonstrate that the installed equipment or waste management units, and modified production or treatment processes meet the applicable standards of this subsection.

(iii) For facilities subject to the recordkeeping requirements of § 265.73 of this section, the owner or operator shall enter the implementation schedule specified in paragraph (a)(2)(ii) of this section in the operating record no later than December 6, 1996.

(iv) For facilities not subject to § 265.73 of this section, the owner or operator shall enter the implementation schedule specified in paragraph (a)(2)(ii) of this section in a permanent, readily available file located at the facility no later than December 6, 1996.

(b) Owners or operators of facilities and units in existence on the effective date of a statutory or regulatory amendment that renders the facility subject to subsections I, J, or K of this section shall meet the following requirements:

(1) Install and begin operation of control equipment or waste management units required to comply with this subsection, and complete modifications of production or treatment processes to satisfy exemption criteria of § 265.1083(c) of this subsection by the effective date of the amendment, except as provided for in paragraph (b)(2) of this section.

(2) When control equipment or waste management units required to comply with this subsection cannot be installed and begin operation, or when modifications of production or treatment processes to satisfy exemption criteria of § 265.1083(c) of this subsection cannot be completed by the effective date of the amendment, the owner or operator shall:

(i) Install and begin operation of the control equipment or waste management unit, and complete modification of production or treatment processes as soon as possible but no later than 30 months after the effective date of the amendment.

(ii) For facilities subject to the recordkeeping requirements of § 265.73 of this section, enter and maintain the implementation schedule specified in paragraph (a)(2)(ii) of this section in the operating record no later than the effective date of the amendment, or

(iii) For facilities not subject to § 265.73 of this section, the owner or operator shall enter and maintain the implementation schedule specified in paragraph (a)(2)(ii) of this section in a permanent, readily available file located at the facility site no later than the

effective date of the amendment.

(c) Owners and operators of facilities and units that become newly subject to the requirements of this subsection after December 8, 1997 due to an action other than those described in paragraph (b) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subsection; the 30-month implementation schedule does not apply).

(d) The Director may elect to extend the implementation date for control equipment at a facility, on a case by case basis, to a date later than December 8, 1997, when special circumstances that are beyond the facility owner's or operator's control delay installation or operation of control equipment, and the owner or operator has made all reasonable and prudent attempts to comply with the requirements of this subsection.

§ 265.1083 Standards: General

(a) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this subsection.

(b) The owner or operator shall control air pollutant emissions from each hazardous waste management unit in accordance with standards specified in § 265.1085 through § 265.1088 of this subsection, as applicable to the hazardous waste management unit, except as provided for in paragraph (c) of this section.

(c) A tank, surface impoundment, or container is exempt from standards specified in § 265.1085 through § 265.1088 of this subsection, as applicable, provided that the waste management unit is one of the following:

(1) A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in § 265.1084(a) of this subsection. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(2) A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

(i) A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_t) established for the process.

The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in § 265.1084(b) of this subsection.

(ii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in § 265.1084(b) of this subsection.

(iii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in § 265.1084(b) of this subsection.

(iv) A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

(A) The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in § 265.1084(b) of this subsection.

(B) The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in § 265.1084(b) of this subsection.

(v) A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

(A) From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls in accordance with the standards specified in § 265.1085 through § 265.1088 of this subsection, as applicable to the waste management unit.

(B) From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The EPA considers a drain system that meets the requirements of 40 CFR part 63, subpart RR - National Emission Standards for Individual Drain Systems to be a closed system.

(C) The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in § 265.1084(a) of this sub-section. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in § 265.1084(b) of this subsection.

(vi) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste

origination shall be determined using the procedures specified in § 265.1084(b) and § 265.1084(a) of this subsection, respectively.

(vii) A hazardous waste incinerator for which the owner or operator has either:

(A) Been issued a final permit under § 270 which implements the requirements of § 264, subsection O; or

(B) Has designed and operates the incinerator in accordance with the interim status requirements of subsection O of this section.

(viii) A boiler or industrial furnace for which the owner or operator has either:

(A) Been issued a final permit under § 270 which implements the requirements of § 266, subsection H, or

(B) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of § 266, subsection H.

(ix) For the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of paragraphs (c)(2)(i) through (c)(2)(vi) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(A) If Method 25D in 40 CFR part 60, appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A, or a value of 25 ppmw, whichever is less.

(B) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value at least 0.1 mole-fraction -in-the-gas-phase/mole-fraction-in- the-liquid-phase ($0.1 Y/X$) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/ m^3] at 25 degrees Celsius.

(3) A tank or surface impoundment used for biological treatment of hazardous waste in accordance with the requirements of paragraph (c)(2)(iv) of this section.

(4) A tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

(i) Meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in § 268 - Land Disposal Restrictions under Table "Treatment Standards for Hazardous Waste" in § 268.40; or

(ii) The organic hazardous constituents in the waste have been treated by the treatment technology established by the EPA for the waste in § 268.42(a), or have been removed or destroyed by an equivalent method of treatment approved pursuant to § 268.42(b).

(5) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

(i) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF - National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(ii) The enclosure and control device serving the tank were installed and began operation prior to December 6, 1996; and

(iii) The enclosure is designed and operated in accordance with the criteria for a

permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” annually.

(d) The Director may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this section as follows:

(1) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of § 265.1084(a) of this subsection. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of § 265.1084(b) of this subsection.

(2) In performing a waste determination pursuant to paragraph (d)(1) of this section, the sample preparation and analysis shall be conducted as follows:

(i) In accordance with the method used by the owner or operator to perform the waste analysis, except in the case specified in paragraph (d)(2)(ii) of this section.

(ii) If the Director determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the Director may choose an appropriate method.

(3) In a case when the owner or operator is requested to perform the waste determination, the Director may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(4) In a case when the results of the waste determination performed or requested by the Director do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of paragraph (d)(1) of this section shall be used to establish compliance with the requirements of this subsection.

(5) In a case when the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the Director may elect to establish compliance with this subsection by performing or requesting that the owner or operator perform a waste determination using direct measurement based on waste samples collected within a 1-hour period as follows:

(i) The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of § 265.1084(a) of this subsection.

(ii) Results of the waste determination performed or requested by the Director showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subsection except in a case as provided for in paragraph (d)(5)(iii) of this section.

(iii) For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator

using an averaging period greater than 1 hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given 1-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of § 265.1084(a) and § 265.1090 of this subsection shall be considered by the Director together with the results of the waste determination performed or requested by the Director in establishing compliance with this subsection.

§ 265.1084 Waste determination procedures

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination.

(1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of § 265.1083(c)(1) of this subsection from using air emission controls in accordance with standards specified in § 265.1085 through § 265.1088 of this subsection, as applicable to the waste management unit.

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of § 265.1083(c)(1) of this subsection from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit; and

(ii) Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the VO concentration limit specified in § 265.1083(c)(1) of this subsection.

(2) For a waste determination that is required by paragraph (a)(1) of this section, the average VO concentration of a hazardous waste at the point of waste origination shall be determined using either direct measurement as specified in paragraph (a)(3) of this section or by knowledge as specified in paragraph (a)(4) of this section.

(3) Direct measurement to determine average VO concentration of a hazardous waste at the point of waste origination.

(i) Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of acceptable sample collection and handling procedures for a total volatile organic constituent concentration may be found in Method 25D in 40 CFR part 60, appendix A.

(D) Sufficient information, as specified in the “site sampling plan” required under paragraph (a)(3)(ii)(C) of this section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples.

(iii) Analysis. Each collected sample shall be prepared and analyzed in accordance with Method 25D in 40 CFR part 60, appendix A for the total concentration of volatile organic constituents, or using one or more methods when the individual organic compound concentrations are identified and summed and the summed waste concentration accounts for and reflects all organic compounds in the waste with Henry’s law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase ($0.1 Y/X$) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/ m^3] at 25 degrees Celsius. At the owner or operator’s discretion, the owner or operator may adjust test data obtained by any appropriate method to discount any contribution to the total volatile organic concentration that is a result of including a compound with a Henry’s law constant value of less than $0.1 Y/X$ at 25 degrees Celsius. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (f_{m25D}). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry’s law constant value greater than or equal to $0.1 Y/X$ at 25 degrees Celsius contained in the waste. Constituent-specific adjustment factors (f_{m25D}) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. Other test methods may be used if they meet the requirements in paragraph (a)(3)(iii)(A) or (B) of this section and provided the requirement to reflect all organic compounds in the waste with Henry’s law constant values greater than or equal to $0.1 Y/X$ [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/ m^3] at 25 degrees Celsius, is met.

(A) Any EPA standard method that has been validated in accordance with “Alternative Validation Procedure for EPA Waste and Wastewater Methods,” 40 CFR part 63, appendix D.

(B) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations.

(A) The average VO concentration (C) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with paragraphs (a)(3)(ii) and (iii) of this section and the following equation:

$$C_{\text{avg}} = \frac{1}{Q_T} \times \sum_{j=1}^m (Q_j \times C_j)$$

where:

C = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw.

i = Individual sample “i” of the hazardous waste.

n = Total number of samples of the hazardous waste collected (at least 4) for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of hazardous waste stream represented by C_i, kg/hr.

Q_T = Total mass quantity of hazardous waste during the averaging period, kg/hr.

C_i = Measured VO concentration of sample “i” as determined in accordance with the requirements of ‘265.1084(a)(3)(iii) of this subpart, ppmw.

(B) For the purpose of determining C_i, for individual waste samples analyzed in accordance with paragraph (a)(3)(iii) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(1) If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A.

(2) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry’s law constant values at least 0.1

mole-fraction-in-the- gas-phase/mole-fraction-in- the-liquid-phase (0.1 Y/X)
[which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m³] at 25°C.

(v) Provided that the test method is appropriate for the waste as required under paragraph (a)(3)(iii) of this section, the EPA will determine compliance based on the test method used by the owner or operator as recorded pursuant to Sec. 265.1090(f)(1) of this subsection.

(4) Use of owner or operator knowledge to determine average VO concentration of a

hazardous waste at the point of waste origination.

(i) Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices.

(ii) If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the waste.

(iii) An owner or operator using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous waste may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D).

(iv) In the event that the Director and the owner or operator disagree on a determination of the average VO concentration for a hazardous waste stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in paragraph (a)(3) of this section shall be used to establish compliance with the applicable requirements of this subsection. The Director may perform or request that the owner or operator perform this determination using direct measurement. The owner or operator may then choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of paragraph (a)(3)(iii) of this section.

(b) Waste determination procedures for treated hazardous waste.

(1) An owner or operator shall perform the applicable waste determination for each treated hazardous waste placed in a waste management unit exempted under the provisions of § 265.1083 (c)(2)(i) through (c)(2)(vi) of this subsection from using air emission controls in accordance with standards specified in §§ 265.1085 through 265.1088 of this subsection, as applicable to the waste management unit.

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in a waste management unit exempted under the provisions of § 265.1083(c)(2), § 265.1083(c)(3), or § 265.1083(c)(4) of this subsection from using air emission controls, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination; and

(ii) Perform a new waste determination whenever changes to the process generating or

treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in § 265.1083(c)(2), § 265.1083(c)(3), or § 265.1083(c)(4) of this subpart are not achieved.

(2) The owner or operator shall designate and record the specific provision in § 265.1083(c)(2) of this subsection under which the waste determination is being performed. The waste determination for the treated hazardous waste shall be performed using the applicable procedures specified in paragraphs (b)(3) through (b)(9) of this section.

(3) Procedure to determine the average VO concentration of a hazardous waste at the point of waste treatment.

(i) Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste treatment in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process generating or treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of acceptable sample collection and handling procedures for a total volatile organic constituent concentration may be found in Method 25D in 40 CFR part 60, appendix A.

(D) Sufficient information, as specified in the “site sampling plan” required under paragraph (C) of (b)(3)(ii) this section, § 265.1084(b)(3)(ii), shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples.

(iii) Analysis. Each collected sample shall be prepared and analyzed in accordance

with Method 25D in 40 CFR part 60, appendix A for the total concentration of volatile organic constituents, or using one or more methods when the individual organic compound concentrations are identified and summed and the summed waste concentration accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m³] at 25 degrees Celsius. When the owner or operator is making a waste determination for a treated hazardous waste that is to be compared to an average VO concentration at the point of waste origination or the point of waste entry to the treatment system to determine if the conditions of § 264.1082(c)(2)(i) through (c)(2)(vi) of this Rule, or § 265.1083(c)(2)(i) through (c)(2)(vi) of this Subsection are met, then the waste samples shall be prepared and analyzed using the same method or methods as were used in making the initial waste determinations at the point of waste origination or at the point of entry to the treatment system. At the owner or operator's discretion, the owner or operator may adjust test data obtained by any appropriate method to discount any contribution to the total volatile organic concentration that is a result of including a compound with a Henry's law constant value less than 0.1 Y/X at 25 degrees Celsius. To adjust these data, the measured concentration of each individual chemical constituent in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 degrees Celsius contained in the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. Other test methods may be used if they meet the requirements in paragraph (a)(3)(iii)(A) or (B) of this section and provided the requirement to reflect all organic compounds in the waste with Henry's law constant values greater than or equal to 0.1 Y/X [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m³] at 25 degrees Celsius, is met.

(A) Any EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods," 40 CFR part 63, appendix D.

(B) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations. The average VO concentration (C) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with paragraphs (b)(3)(ii) and (iii) of this section and the following equation:

$$\bar{C} = \frac{I}{Q_T} \times \sum_{i=1}^n (Q_i \times C_i)$$

where:

C=Average VO concentration of the hazardous waste at the point of waste treatment on a mass-weighted basis, ppmw.

i=Individual waste determination “i” of the hazardous waste.

n=Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year).

Q_i=Mass quantity of hazardous waste stream represented by C_i, kg/hr.

Q_T=Total mass quantity of hazardous waste during the averaging period, kg/hr.

C_i=Measured VO concentration of waste determination “i” as determined in accordance with the requirements of paragraph (b)(3)(iii) of this section (i.e. the average of the four or more samples specified in paragraph (b)(3)(ii)(B) of this section), ppmw.

(v) Provided that the test method is appropriate for the waste as required under paragraph (b)(3)(iii) of this section, compliance shall be determined based on the test method used by the owner or operator as recorded pursuant to § 265.1090(f)(1) of this subsection.

(4) Procedure to determine the exit concentration limit (C_t) for a treated hazardous waste.

(i) The point of waste origination for each hazardous waste treated by the process at the same time shall be identified.

(ii) If a single hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the exit concentration limit (C_t) shall be 500 ppmw.

(iii) If more than one hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of paragraph (a) of this section. The exit concentration limit (C_t) shall be calculated by using the results determined for each individual hazardous waste stream and the following equation:

$$C_t = \frac{\sum_{x=1}^m (Q_x \times C_x) + \sum_{y=1}^n (Q_y \times 100 \text{ ppmw})}{\sum_{x=1}^m Q_x + \sum_{y=1}^n Q_y}$$

where:

C_t = Exit concentration limit for treated hazardous waste, ppmw.

x = Individual hazardous waste stream “x” that has an average VO concentration less than 500 ppmw at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subsection.

y = Individual hazardous waste stream “y” that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of §265.1084(a) of this subsection.

m = Total number of “x” hazardous waste streams treated by process.

n = Total number of “y” hazardous waste streams treated by process.

Q_x = Annual mass quantity of hazardous waste stream “x,” kg/yr.

Q_y = Annual mass quantity of hazardous waste stream “y,” kg/yr.

x = Average VO concentration of hazardous waste stream “x” at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subsection, ppmw.

(5) Procedure to determine the organic reduction efficiency (R) for a treated hazardous waste.

(i) The organic reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs.

(ii) All hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process.

(iii) For each run, information shall be determined for each hazardous waste stream identified in paragraph (b)(5)(ii) of this section using the following procedures:

(A) The mass quantity of each hazardous waste stream entering the process (Q_b) and the mass quantity of each hazardous waste stream exiting the process (Q_a) shall be determined.

(B) The average VO concentration at the point of waste origination of each hazardous waste stream entering the process (b) during the run shall be determined in accordance with the requirements of paragraph (a)(3) of this section. The average VO concentration at the point of waste treatment of each waste stream exiting the process (a) during the run shall be determined in accordance with the requirements of paragraph (b)(3) of this section.

(iv) The waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) shall be calculated by using the results determined in accordance with paragraph (b)(5)(iii) of this section and the following equations:

$$E_a = \frac{1}{10^6} \sum_{j=1}^m (Q_{aj} \times C_{aj})$$
$$E_b = \frac{1}{10^6} \sum_{j=1}^m (Q_{bj} \times C_{bj})$$

where:

E_a = Waste volatile organic mass flow exiting process, kg/hr.

E_b = Waste volatile organic mass flow entering process, kg/hr.

m = Total number of runs (at least 3)

j = Individual run "j"

Q_b = Mass quantity of hazardous waste entering process during run "j," kg/hr.

Q_a = Average mass quantity of hazardous waste exiting process during run "j," kg/hr.

a = Average VO concentration of hazardous waste exiting process during run "j" as determined in accordance with the requirements of '265.1084(b)(3) of this subsection , ppmw.

b = Average VO concentration of hazardous waste entering process during run "j" as determined in accordance with the requirements of § 265.1084(a)(3) of this subsection, ppmw.

(v) The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with paragraph (b)(5)(iv) of this section and the

following equation:

$$R = \frac{E_b - E_a}{E_b} \times 100\%$$

where:

R = Organic reduction efficiency, percent.

E_b = Waste volatile organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

E_a = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

(6) Procedure to determine the organic biodegradation efficiency (R_{bio}) for a treated hazardous waste.

(i) The fraction of organics biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR part 63, appendix C.

(ii) The R_{bio} shall be calculated by using the following equation:

$$R_{bio} = F_{bio} \times 100\%$$

where:

R_{bio} = Organic biodegradation efficiency, percent.

F_{bio} = Fraction of organic biodegraded as determined in accordance with the requirements of paragraph (b)(6)(i) of this section.

(7) Procedure to determine the required organic mass removal rate (RMR) for a treated hazardous waste.

(i) All of the hazardous waste streams entering the treatment process shall be identified.

(ii) The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of paragraph (a) of this section.

(iii) For each individual hazardous waste stream that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination shall be determined.

(iv) The RMR shall be calculated by using the average VO concentration, average volumetric flow rate, and density determined for each individual hazardous waste stream, and the following equation:

$$RMR = \sum_{y=1}^n \left[V_y \times k_y \times \frac{(C_y - 100 \text{ ppmw})}{10^6} \right]$$

where:

RMR = Required organic mass removal rate, kg/hr.

y = Individual hazardous waste stream “y” that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subsection.

n = Total number of “y” hazardous waste streams treated by process.

Vy = Average volumetric flow rate of hazardous waste stream “y” at the point of waste origination, m³/hr.

ky = Density of hazardous waste stream “y,” kg/m³

y = Average VO concentration of hazardous waste stream “y” at the point of waste origination as determined in accordance with the requirements of § 265.1084(a) of this subsection, ppmw.

(8) Procedure to determine the actual organic mass removal rate (MR) for a treated hazardous waste.

(i) The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) shall be determined in accordance with the requirements of paragraph (b)(5)(iv) of this section.

(iii) The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of paragraph (b)(8)(ii) of this section and the following equation:

$$MR = E_b - E_a$$

where:

MR = Actual organic mass removal rate, kg/hr.

E_b = Waste volatile organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

E_a = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

(9) Procedure to determine the actual organic mass biodegradation rate (MR_{bio}) for a treated hazardous waste.

(i) The MR_{bio} shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste organic mass flow entering the process (E_b) shall be determined in accordance with the requirements of paragraph (b)(5)(iv) of this section.

(iii) The fraction of organic biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR part 63, appendix C.

(iv) The MR_{bio} shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of paragraphs (b)(9)(ii) and (b)(9)(iii) of this section, respectively, and the following equation:

$$MR_{bio} = E_b \times F_{bio}$$

Where:

MR_{bio} = Actual organic mass biodegradation rate, kg/hr.

E_b = Waste organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

F_{bio} = Fraction of organic biodegraded as determined in accordance with the requirements of paragraph (b)(9)(iii) of this section.

(c) Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank.

(1) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with the standards specified in § 265.1085(c) of this subsection.

(2) An owner or operator shall use either direct measurement as specified in paragraph (c)(3) of this section or knowledge of the waste as specified by paragraph (c)(4) of this section to determine the maximum organic vapor pressure which is representative of the hazardous waste composition stored or treated in the tank.

(3) Direct measurement to determine the maximum organic vapor pressure of a hazardous waste.

(i) Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of acceptable sample collection and handling procedures may be found in Method 25D in 40 CFR part 60, appendix A.

(ii) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste:

(A) Method 25E in 40 CFR part 60 appendix A;

(B) Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," (incorporated by reference - refer to § 260.11 of this rule);

(C) Methods obtained from standard reference texts;

(D) ASTM Method 2879-92 (incorporated by reference - refer to § 260.11 of this rule); or

(E) Any other method approved by the Director.

(4) Use of knowledge to determine the maximum organic vapor pressure of the hazardous waste. Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum organic vapor pressure of the hazardous waste is less than the maximum vapor pressure limit listed in § 265.1085(b)(1)(i) of this subsection for the applicable tank design capacity category. An example of information that may be used is documentation that the hazardous waste is generated by a process for which at other locations it previously has been determined by

direct measurement that the waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(d) Procedure for determining no detectable organic emissions for the purpose of complying with this subsection:

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: The interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve.

(2) The test shall be performed when the unit contains a hazardous waste having an organic concentration representative of the range of concentrations for the hazardous waste expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous waste placed in the waste management unit, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

- (i) Zero air (less than 10 ppmv hydrocarbon in air), and
- (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane.

(6) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21 of 40 CFR part 60, appendix A. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in paragraph (d)(9) of this section. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(9) For the seals around a rotating shaft that passes through a cover opening, the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no

detectable organic emissions.

§ 265.1085 Standards: Tanks

(a) The provisions of this section apply to the control of air pollutant emissions from tanks for which § 265.1083(b) of this subsection references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from each tank subject to this section in accordance with the following requirements, as applicable:

(1) For a tank that manages hazardous waste that meets all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in paragraph (c) of this section or the Tank Level 2 controls specified in paragraph (d) of this section.

(i) The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m³, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m³ but less than 151 m³, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m³, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with paragraph (b)(1)(i) of this section.

(iii) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in § 265.1081 of this subsection.

(2) For a tank that manages hazardous waste that does not meet all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section. Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in paragraph (b)(1)(i) of this section.

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in paragraphs (c)(1) through (c)(4) of this section:

(1) The owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in § 265.1084(c) of this subsection. Thereafter, the owner or operator shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to

increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in paragraph (b)(1)(i) of this section, as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral section of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(iii) Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either:

(A) Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank, except as provided for in paragraphs (c)(2)(iii)(B)(1) and (2) of this section.

(1) During periods it is necessary to provide access to the tank for performing the activities of paragraph (c)(2)(iii)(B)(2) of this section, venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

(2) During periods of routine inspection, maintenance, or other activities needed for normal operations, and for the removal of accumulated sludge or other residues from the bottom of the tank.

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance,

or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in § 265.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except under the special conditions provided for in paragraph (l) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subsection.

(d) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the

requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The owner or operator who controls air pollutant emissions from a tank using a fixed-roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in § 265.1081 of this subsection; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended

setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided in paragraph (e)(3)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in paragraph (e)(3)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by paragraph (e)(3)(ii) or (e)(3)(iii) of this section, the owner or operator shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (e)(3)(iv)(B) of this section.

(B) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in '265.1090(b) of this subsection.

(4) Safety devices, as defined in § 265.1081 of this subsection, may be installed and operated as necessary on any tank complying with the requirements of paragraph (e) of this section.

(f) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in § 265.1081 of this subsection. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm²) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm²) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

- (i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.
- (ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.
- (iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.
- (iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.
- (v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.
- (vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.
- (vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.
- (viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

- (i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:
 - (A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.
 - (B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.
 - (C) If a tank ceases to hold hazardous waste for a period of 1 year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of paragraphs (f)(3)(i)(A) and (f)(3)(i)(B) of this section.
 - (D) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:
 - (1) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.
 - (2) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.
 - (3) For a seal gap measured under paragraph (f)(3) of this section, the gap surface area shall be determined by using probes of various widths to

measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(4) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in paragraph (f)(1)(ii) of this section.

(E) In the event that the seal gap measurements do not conform to the specifications in paragraph (f)(1)(ii) of this section, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subsection.

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subsection.

(iii) Prior to each inspection required by paragraph (f)(3)(i) or (f)(3)(ii) of this section, the owner or operator shall notify the Director in advance of each inspection to provide the Director with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Director of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under paragraph (f)(3)(i) of this section, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Director at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (f)(3)(iii)(C) of this section.

(C) When a visual inspection is not planned and the owner or operator could not

have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Director as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Director at least 7 calendar days before refilling the tank.

(4) Safety devices, as defined in § 265.1081 of this subsection, may be installed and operated as necessary on any tank complying with the requirements of paragraph (f) of this section.

(g) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 265.1088 of this subsection.

(2) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion

of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in § 265.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in § 265.1088 of this subsection.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(b) of this subsection.

(h) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in § 265.1084(d) of this subsection.

(3) Whenever a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in paragraph (h)(3)(i) or (h)(3)(ii) of this section.

(i) At those times when opening of a safety device, as defined in § 265.1081 of this subsection, is required to avoid an unsafe condition.

(ii) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of § 265.1088 of this subsection.

(i) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure"

under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in § 265.1088 of this subsection.

(3) Safety devices, as defined in § 265.1081 of this subsection, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (i)(1) and (i)(2) of this section.

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in § 265.1088 of this subsection.

(j) The owner or operator shall transfer hazardous waste to a tank subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (j)(2) of this section, to the tank from another tank subject to this section or from a surface impoundment subject to § 265.1086 of this subsection shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR - National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (j)(1) do not apply when transferring a hazardous waste to the tank under any of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in § 265.1083(c)(1) of this subsection at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in § 265.1083(c)(2) of this subsection.

(iii) The hazardous waste meets the requirements of § 265.1083(c)(4) of this subsection.

(k) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraphs (c)(4), (e)(3), (f)(3), or (g)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (k)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subsection, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an “unsafe to inspect and monitor cover” and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this subsection, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

§ 265.1086 Standards: surface impoundments

(a) The provisions of this section apply to the control of air pollutant emissions from surface impoundments for which § 265.1083(b) of this subsection references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

(1) A floating membrane cover in accordance with the provisions specified in paragraph (c) of this section; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with the provisions specified in paragraph (d) of this section.

(c) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet the requirements specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(i) The floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(A) of this section and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface

of the cover edge and its foundation mountings.

(iv) Except as provided for in paragraph (c)(1)(v) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(2) Whenever a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(i) Opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in § 265.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

(i) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the

inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(c) of this subsection.

(d) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet the requirements specified in paragraphs (d)(1) through (d)(3) of this section.

(1) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(ii) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in § 265.1084(d) of this subsection.

(iii) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 265.1088 of this subsection.

(2) Whenever a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(B) To remove accumulated sludge or other residues from the bottom of the surface impoundment.

(ii) Opening of a safety device, as defined in § 265.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in § 265.1088 of this subsection.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 265.1090(c) of this subsection.

(e) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (e)(2) of this section, to the surface impoundment from another surface impoundment subject to this section or from a tank subject to § 265.1085 of this subsection shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR - National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (e)(1) of this section do not apply when transferring a hazardous waste to the surface impoundment under either of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in § 265.1083(c)(1) of this subsection at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in § 265.1083(c)(2) of this subsection.

(iii) The hazardous waste meets the requirements of § 265.1083(c)(4) of this subsection.

(f) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(3) or (d)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later

than 45 calendar days after detection except as provided in paragraph (f)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(g) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subsection, subsequent inspection and monitoring may be performed at intervals longer than 1 year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an “unsafe to inspect and monitor cover” and comply with all of the following requirements:

(1) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(2) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of this subsection as frequently as practicable during those times when a worker can safely access the cover.

§ 265.1087 Standards: Containers

(a) The provisions of this section apply to the control of air pollutant emissions from containers for which § 265.1083(b) of this subsection references the use of this section for such air emission control.

(b) General requirements.

(1) The owner or operator shall control air pollutant emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in paragraph (b)(2) of this section apply to the container.

(i) For a container having a design capacity greater than 0.1 m³ and less than or equal to 0.46 m³, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(ii) For a container having a design capacity greater than 0.46 m³ that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(iii) For a container having a design capacity greater than 0.46 m³ that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in paragraph (d) of this section.

(2) When a container having a design capacity greater than 0.1 m³ is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air

pollutant emissions from the container in accordance with the Container Level 3 standards specified in paragraph (e) of this section at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(c) Container Level 1 standards.

(1) A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a “portable tank” or bulk cargo container equipped with a screw-type cap).

(iii) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of paragraph (c)(1)(ii) or (c)(1)(iii) of this section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(3) Whenever a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the

material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in § 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in § 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the container internal pressure in accordance with the design specifications of the container. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 265.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in § 261.7(b)), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the

container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subsection CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest (EPA Forms 8700-22 and 8700-22A), as required under subsection E of this section, at § 265.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(5) The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m³ or greater, which do not meet applicable DOT regulations as specified in paragraph (f) of this section, are not managing hazardous waste in light material service.

(d) Container Level 2 standards.

(1) A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container that operates with no detectable organic emissions as defined in § 265.1081 of this subsection and determined in accordance with the procedure specified in paragraph (g) of this section.

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, appendix A, Method 27 in accordance the procedure specified in paragraph (h) of this section.

(2) Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors

displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(3) Whenever a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in § 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in § 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device

remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in § 265.1081 of this subsection, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in § 261.7(b)), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subsection CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest ~~in the appendix to Section 262~~ (EPA Forms 8700-22 and 8700-22A), as required under subsection E of this section, at § 265.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(e) Container Level 3 standards.

(1) A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of paragraph (e)(2)(ii) of this section.

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 265.1088 of this subsection.

(3) Safety devices, as defined in § 265.1081 of this subsection, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph (e)(1) of this section.

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of this subsection shall inspect and monitor the closed-vent systems and control devices as specified in § 265.1088 of this subsection.

(5) Owners and operators that use Container Level 3 controls in accordance with the provisions of this subsection shall prepare and maintain the records specified in § 265.1090(d) of this subsection.

(6) Transfer of hazardous waste in or out of a container using Container Level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(f) For the purpose of compliance with paragraph (c)(1)(i) or (d)(1)(i) of this section, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178 - Specifications for Packaging or 49 CFR part 179 - Specifications for Tank Cars.

(2) Hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B - Exemptions; 49 CFR part 172 - Hazardous Materials Table, Special Provisions, Hazardous Materials Communications,

Emergency Response Information, and Training Requirements; 49 CFR part 173 - Shippers - General Requirements for Shipments and Packages; and 49 CFR part 180 - Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with this subsection, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in paragraph (f)(4) of this section.

(4) For a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with this subsection, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) To determine compliance with the no detectable organic emissions requirements of paragraph (d)(1)(ii) of this section, the procedure specified in § 265.1084(d) of this subsection shall be used.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, appendix A for the purpose of complying with paragraph (d)(1)(iii) of this section.

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, appendix A.

(2) A pressure measurement device shall be used that has a precision of “ 2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

§ 265.1088 Standards: Closed-vent systems and control devices

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this subsection.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in paragraph (c) of this section.

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in § 265.1033(j) of this section.

(3) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in paragraph (b)(3)(i) of this section or a seal or locking device as specified in paragraph (b)(3)(ii) of this section. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with paragraph (b)(3) of this section, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with paragraph (b)(3) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the owner or operator in accordance with the procedure specified in § 265.1033(k).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of § 265.1033(c); or

(iii) A flare designed and operated in accordance with the requirements of § 265.1033(d).

(2) The owner or operator who elects to use a closed-vent system and control device to comply with the requirements of this section shall comply with the requirements specified in paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during a control device system malfunction.

(iv) The owner or operator shall demonstrate compliance with the requirements of paragraph (c)(2)(i) of this section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year) by recording the information specified in § 265.1090(e)(1)(v) of this subsection.

(v) The owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The owner or operator shall operate the closed-vent system such that gases, vapors, and/or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The owner or operator using a carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the

following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of § 265.1033(g) or § 265.1033(h).

(ii) All carbon that is a hazardous waste and that is removed from the control device shall be managed in accordance with the requirements of § 265.1033(m), regardless of the average volatile organic concentration of the carbon.

(4) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the requirements of § 265.1033(i).

(5) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (c)(1) of this section as follows:

(i) An owner or operator shall demonstrate using either a performance test as specified in paragraph (c)(5)(iii) of this section or a design analysis as specified in paragraph (c)(5)(iv) of this section the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or process heater burning hazardous waste for which the owner or operator has been issued a final permit under Section 270 and has designed and operates the unit in accordance with the requirements of Section 266, subsection H; or

(E) A boiler or process heater burning hazardous waste for which the owner or operator has designed and operates in compliance with the interim status requirements of Section 266, subsection H.

(ii) An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in § 265.1033(e).

(iii) For a performance test conducted to meet the requirements of paragraph (c)(5)(i) of this section, the owner or operator shall use the test methods and procedures specified in § 265.1034(c)(1) through (c)(4).

(iv) For a design analysis conducted to meet the requirements of paragraph (c)(5)(i) of this section, the design analysis shall meet the requirements specified in § 265.1035 (b)(4)(iii).

(v) The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of paragraph (c)(1) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the owner or operator and the Director do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (c)(5)(iii) of this section. The Director may choose to have an

authorized representative observe the performance test.

(7) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in § 265.1033(f)(2) and § 265.1033(k). The readings from each monitoring device required by § 265.1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this section.

§ 265.1089 Inspection and monitoring requirements

(a) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subsection in accordance with the applicable requirements specified in § 265.1085 through § 265.1088 of this subsection.

(b) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by paragraph (a) of this section. The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under § 265.15.

§ 265.1090 Recordkeeping requirements

(a) Each owner or operator of a facility subject to requirements in this subsection shall record and maintain the information specified in paragraphs (b) through (j) of this section, as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraphs (i) and (j) of this section, records required by this section shall be maintained in the operating record for a minimum of 3 years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by paragraphs (i) and (j) of this section shall be maintained in the operating record for as long as the tank or container is not using air emission controls specified in §§ 264.1084 through 264.1087 of this subsection in accordance with the conditions specified in § 264.1084(d) of this subsection.

(b) The owner or operator of a tank using air emission controls in accordance with the requirements of § 265.1085 of this subsection shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of § 265.1085 of this subsection, the owner or operator shall record:

(i) A tank identification number (or other unique identification description as selected by the owner or operator).

(ii) A record for each inspection required by § 265.1085 of this subsection that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 265.1085 of this subsection, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(2) In addition to the information required by paragraph (b)(1) of this section, the owner or operator shall record the following information, as applicable to the tank:

(i) The owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in § 265.1085(c) of this subsection shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of § 265.1085(c) of this subsection. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in § 265.1085(e) of this subsection shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in § 265.1085(f) of this subsection shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by §265.1085(f)(3) of this subsection describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in §265.1085(f)(1) of this subsection, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in § 265.1085(i) of this subsection shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(c) The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of § 265.1086 of this subsection shall prepare and maintain records for the surface impoundment that include the following information:

(1) A surface impoundment identification number (or other unique identification description as selected by the owner or operator).

(2) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in § 265.1086(c) of this subsection.

(3) A record for each inspection required by § 265.1086 of this subsection that includes the following information:

(i) Date inspection was conducted.

(ii) For each defect detected during the inspection the following information: The location of the defect, a description of the defect, the date of detection, and corrective

action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 265.1086(f) of this subsection, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in paragraph (e) of this section.

(d) The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of § 265.1087 of this subsection shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B.

(2) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(e) The owner or operator using a closed-vent system and control device in accordance with the requirements of § 265.1088 of this subsection shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in paragraph (e)(1)(ii) of this section or by performance tests as specified in paragraph (e)(1)(iii) of this section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in §265.1035 (b)(4). The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with 40 CFR 265.1035(b)(4)(iii) and certification by the owner or operator that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in § 265.1035(b)(3) and all test results.

(iv) Information as required by § 265.1035(c)(1) and § 265.1035(c)(2), as applicable.

(v) An owner or operator shall record, on a semiannual basis, the information specified in paragraphs (e)(1)(v)(A) and (e)(1)(v)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of § 265.1088(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the

type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of § 265.1088(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable, due to planned routine maintenance.

(vi) An owner or operator shall record the information specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of § 265.1088(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subsection, as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with § 265.1088(c)(3)(ii) of this subsection.

(f) The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of § 265.1083(c) of this subsection shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, or containers exempted under the hazardous waste organic concentration conditions specified in § 265.1083(c)(1) or or § 265.1083(c)(2)(i) through (c)(2)(vi) of this subsection, the owner or operator shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of § 265.1084 of this subsection.

(2) For tanks, surface impoundments, or containers exempted under the provisions of § 265.1083(c)(2)(vii) or § 265.1083(c)(2)(viii) of this subsection, the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.

(g) An owner or operator designating a cover as “unsafe to inspect and monitor” pursuant to § 265.1085(l) or § 265.1086(g) of this subsection shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as “unsafe to inspect and monitor,” the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The owner or operator of a facility that is subject to this subsection and to the control device standards in 40 CFR section 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of this subsection by documentation either pursuant to this subsection, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by this section.

(i) For each tank or container not using air emission controls specified in §§ 265.1085 through 265.1088 of this subsection in accordance with the conditions specified in § 265.1080(d) of this subsection, the owner or operator shall record and maintain the following information:

(1) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in § 265.1080(d)(1).

(2) A description of how the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section are managed at the facility in tanks and containers. This description shall include the following information:

(i) For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: A facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to describe: A facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(3) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section in the tanks and containers as described in paragraph (i)(2) of this section would create an undue safety hazard if the air emission controls, as required under §§ 265.1085 through 265.1088 of this subsection, are installed and operated on these waste management units. This explanation shall include the following information:

(i) For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under this subsection, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under this subsection, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(j) For each hazardous waste management unit not using air emission controls specified in §§ 265.1085 through 265.1088 of this subsection in accordance with the provisions of § 265.1080(b)(7) of this subsection, the owner and operator shall record and maintain the following information:

(1) Certification that the waste management unit is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63.

(2) Identification of the specific requirements codified under 40 CFR part 60, part 61, or part 63 with which the waste management unit is in compliance.

Subsection DD – Containment Buildings

§ 265.1100 Applicability

The requirements of this subsection apply to owners or operators who store or treat hazardous waste in units designed and operated under § 265.1101 of this subsection. The owner or operator is not subject to the definition of land disposal in RCRA section 3004(k) provided that the unit:

(a) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the units, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(b) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel and handling equipment within the unit;

(c) If the unit is used to manage liquids, has:

(1) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest possible time, unless the unit has been granted a variance from the secondary containment system requirements under § 265.1101(b)(4);

(d) Has controls as needed to prevent fugitive dust emissions; and

(e) Is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

§ 265.1101 Design and operating standards

(a) All containment buildings must comply with the following design standards:

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation,

including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. The Division will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

- (i) They provide an effective barrier against fugitive dust emissions under paragraph (c)(1)(iv); and

- (ii) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

- (1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g. a geomembrane covered by a concrete wear surface).

- (2) A liquid collection and removal system to prevent the accumulation of liquid on the primary barrier of the containment building:

- (i) The primary barrier must be sloped to drain liquids to the associated collection system; and

- (ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time that protects human health and the environment.

- (3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

- (i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

- (A) Constructed with a bottom slope of 1 percent or more; and

- (B) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more.

- (ii) If treatment is to be conducted in the building, an area in which such treatment

will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building.

(Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of § 265.193(e)(1). In addition, the containment building must meet the requirements of § 265.193 (b) and (c) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Director may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this Subsection. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Director of their request by February 18, 1993. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Director on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Director.

(c) Owners or operators of all containment buildings must:

(1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices. This state of no visible emissions must be maintained effectively at all times during normal operating conditions, including when vehicles and personnel are entering and exiting the unit.

(2) Obtain certification by an *independent qualified Arkansas-registered professional engineer* that the containment building design meets the requirements of paragraphs (a) through (c) of this section.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, the owner or operator must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has led to a release of hazardous waste (e.g.,

upon detection of leakage from the primary barrier) the owner or operator must:

(A) Enter a record of the discovery in the facility operating record;

(B) Immediately remove the portion of the containment building affected by the condition from service;

(C) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and

(D) Within 7 days after the discovery of the condition, notify the Director of the condition, and within 14 working days, provide a written notice to the Director with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(ii) The Director will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Director in writing and provide a verification, signed by an *independent qualified, Arkansas-registered professional engineer*, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record at least once every seven days, data gathered from monitoring and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For a containment building that contains both areas with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enumerated in paragraphs (a) through (c) of this section;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subsection, the Director may waive requirements for secondary containment for a permitted containment building where the owner or operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

§ 265.1102 Closure and post-closure care

(a) At closure of a containment building, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this rule applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the

requirements specified in subsections G and H of this section.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 265.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a containment building is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subsections G and H of this section.

§§ 265.1103-265.1110 [Reserved]

Subsection EE — Hazardous Waste Munitions and Explosives Storage

§ 265.1200 Applicability

The requirements of this subsection apply to owners or operators who store munitions and explosive hazardous wastes, except as § 265.1 provides otherwise. (NOTE: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (Section 265, subsection DD), tanks (Section 265, subsection J), or containers (Section 265, subsection I); See § 266.205 for storage of waste military munitions).

§ 265.1201 Design and operating standards

(a) Hazardous waste munitions and explosives storage units must be designed and operated with containment systems, controls, and monitoring, that:

(1) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products, or contaminated run-off, to the soil, ground water, surface water, and atmosphere;

(2) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste;

(3) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation;

(4) For liquid wastes, provide a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area); and

(5) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(b) Hazardous waste munitions and explosives stored under this subsection may be stored in one

of the following:

- (1) Earth-covered magazines. Earth-covered magazines must be:
 - (i) Constructed of waterproofed, reinforced concrete or structural steel arches, with steel doors that are kept closed when not being accessed;
 - (ii) Designed and constructed:
 - (A) To be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit;
 - (B) To provide working space for personnel and equipment in the unit; and
 - (C) To withstand movement activities that occur in the unit; and
 - (iii) Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.
- (2) Above-ground magazines. Above-ground magazines must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.
- (3) Outdoor or open storage areas. Outdoor or open storage areas must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.
- (c) Hazardous waste munitions and explosives must be stored in accordance with a Standard Operating Procedure specifying procedures to ensure safety, security, and environmental protection. If these procedures serve the same purpose as the security and inspection requirements of § 265.14, the preparedness and prevention procedures of Section 265, subsection C, and the contingency plan and emergency procedures requirements of Section 265, subsection D, then these procedures will be used to fulfill those requirements.
- (d) Hazardous waste munitions and explosives must be packaged to ensure safety in handling and storage.
- (e) Hazardous waste munitions and explosives must be inventoried at least annually.
- (f) Hazardous waste munitions and explosives and their storage units must be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

§ 265.1202 Closure and post-closure care

- (a) At closure of a magazine or unit which stored hazardous waste under this subsection, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless § 261.3(d) of this rule applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for magazines or units must meet all of the requirements specified in subsections G and H of this section, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.
- (b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he or she must close the facility and

perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 264.310).

Appendices to Section 265

Appendix I -- Recordkeeping Instructions

The recordkeeping provisions of § 265.73 specify that an owner or operator must keep a written operating record at his facility. This appendix provides additional instructions for keeping portions of the operating record. See § 265.73(b) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

- (1) A description by its common name and the EPA Hazardous Waste Number(s) from part 261 of this rule which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in part 261, subsection D, of this rule, the description also must include the process that produced it (for example, solid filter cake from production of -- -- -- , EPA Hazardous Waste Number W051).

Each hazardous waste listed in part 261, rule D, of this rule, and each hazardous waste characteristic defined in part 261, subsection C, of this rule, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

- (2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1; and

Table 1

| Unit of measure | Code ¹ |
|----------------------|-------------------|
| Gallons | G |
| Gallons per Hour | E |
| Gallons per Day | U |
| Liters | L |
| Liters Per Hour | H |
| Liters Per Day | V |
| Short Tons Per Hour | D |
| Metric Tons Per Hour | W |
| Short Tons Per Day | N |
| Metric Tons Per Day | S |

| | |
|--------------------|---|
| Pounds Per Hour | J |
| Kilograms Per Hour | R |
| Cubic Yards | Y |
| Cubic Meters | C |
| Acres | B |
| Acre-feet | A |
| Hectares | Q |
| Hectare-meter | F |
| Btu's per Hour | I |
| Pounds | P |
| Short tons | T |
| Kilograms | K |
| Tons | M |

FOOTNOTE: ¹Single digit symbols are used here for data processing purposes.

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

Table 2.
Handling Codes for Treatment, Storage and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store or dispose of each quantity of hazardous waste received.

1. Storage

- S01 Container (barrel, drum, etc.)
- S02 Tank
- S03 Waste Pile
- S04 Surface Impoundment
- S05 Drip Pad
- S06 Containment Building (Storage)
- S99 Other Storage (specify)

2. Treatment

(a) Thermal Treatment--

- T06 Liquid injection incinerator

- T07 Rotary kiln incinerator
- T08 Fluidized bed incinerator
- T09 Multiple hearth incinerator
- T10 Infrared furnace incinerator
- T11 Molten salt destructor
- T12 Pyrolysis
- T13 Wet Air oxidation
- T14 Calcination
- T15 Microwave discharge
- T18 Other (specify)

(b) Chemical Treatment--

- T19 Absorption mound
- T20 Absorption field
- T21 Chemical fixation
- T22 Chemical oxidation
- T23 Chemical precipitation
- T24 Chemical reduction
- T25 Chlorination
- T26 Chlorinolysis
- T27 Cyanide destruction
- T28 Degradation
- T29 Detoxification
- T30 Ion exchange
- T31 Neutralization
- T32 Ozonation
- T33 Photolysis
- T34 Other (specify)

(c) Physical Treatment--

(1) Separation of components

- T35 Centrifugation
- T36 Clarification
- T37 Coagulation
- T38 Decanting
- T39 Encapsulation
- T40 Filtration
- T41 Flocculation
- T42 Flotation
- T43 Foaming
- T44 Sedimentation
- T45 Thickening
- T46 Ultrafiltration
- T47 Other (specify)

(2) Removal of Specific Components

- T48 Absorption-molecular sieve
- T49 Activated carbon
- T50 Blending
- T51 Catalysis
- T52 Crystallization
- T53 Dialysis
- T54 Distillation
- T55 Electrodialysis
- T56 Electrolysis
- T57 Evaporation
- T58 High gradient magnetic separation
- T59 Leaching
- T60 Liquid ion exchange
- T61 Liquid-liquid extraction
- T62 Reverse osmosis
- T63 Solvent recovery
- T64 Stripping
- T65 Sand filter
- T66 Other (specify)

(d) Biological Treatment

- T67 Activated sludge
- T68 Aerobic lagoon
- T69 Aerobic tank
- T70 Anaerobic tank
- T71 Composting
- T72 Septic tank
- T73 Spray irrigation
- T74 Thickening filter
- T75 Trickling filter
- T76 Waste stabilization pond
- T77 Other (specify)
- T78 [Reserved]
- T79 [Reserved]

(e) Boilers and Industrial Furnaces

- T80 Boiler
- T81 Cement Kiln
- T82 Lime Kiln
- T83 Aggregate Kiln
- T84 Phosphate Kiln
- T85 Coke Oven
- T86 Blast Furnace
- T87 Smelting, Melting, or Refining Furnace
- T88 Titanium Dioxide Chloride Process

- Oxidation Reactor
- T89 Methane Reforming Furnace
- T90 Pulping Liquor Recovery Furnace
- T91 Combustion Device Used in the Recovery of Sulfur Values From Spent Sulfuric Acid
- T92 Halogen Acid Furnaces
- T93 Other Industrial Furnaces Listed in 40 CFR 260.10 (specify)
- (f) Other Treatment**
- T94 Containment Building (Treatment)

3. Disposal

- D79 Underground Injection
- D80 Landfill
- D81 Land Treatment
- D82 Ocean Disposal
- D83 Surface Impoundment (to be closed as a landfill)
- D99 Other Disposal (specify)

4. Miscellaneous

- X01 Open Burning/Open Detonation
- X02 Mechanical Processing
- X03 Thermal Unit
- X04 Geologic Repository
- X99 Other (specify)

Appendix II -- [Reserved]

Appendix III -- EPA Interim Primary Drinking Water Standards

| Parameter | Maximum level (mg/l) |
|----------------|----------------------|
| Arsenic | 0.05 |
| Barium | 1.0 |
| Cadmium | 0.01 |
| Chromium | 0.05 |
| Fluoride | 1.4-2.4 |
| Lead | 0.05 |
| Mercury | 0.002 |
| Nitrate (as N) | 10 |
| Selenium | 0.01 |

| | |
|-------------------|---------------|
| Silver | 0.05 |
| Endrin | 0.0002 |
| Lindane | 0.004 |
| Methoxychlor | 0.1 |
| Toxaphene | 0.005 |
| 2,4-D | 0.1 |
| 2,4,5-TP Silver | 0.01 |
| Radium | 5 pCi/1 |
| Gross Alpha | 15 pCi/1 |
| Gross Beta | 4 millirem/yr |
| Turbidity | 1/TU |
| Coliform Bacteria | 1/100 ml |

Comment: Turbidity is applicable only to surface water supplies.

Appendix IV -- Tests for Significance

As required in § 265.93(b) the owner or operator must use the Student's t-test to determine statistically significant changes in the concentration or value of an indicator parameter in periodic ground-water samples when compared to the initial background concentration or value of that indicator parameter. The comparison must consider individually each of the wells in the monitoring system. For three of the indicator parameters (specific conductance, total organic carbon, and total organic halogen) a single-tailed Student's t-test must be used to test at the 0.01 level of significance for significant increases over background. The difference test for pH must be a two-tailed Student's t-test at the overall 0.01 level of significance.

The Student's t-test involves calculation of the value of a t-statistic for each comparison of the mean (average) concentration or value (based on a minimum of four replicate measurements) of an indicator parameter with its initial background concentration or value. The calculated value of the t-statistic must then be compared to the value of the t-statistic found in a table for t-test of significance at the specified level of significance. A calculated value of t which exceeds the value of t found in the table indicates a statistically significant change in the concentration or value of the indicator parameter.

Formulae for calculation of the t-statistic and tables for t-test of significance can be found in most introductory statistics texts.

Appendix V -- Examples of Potentially Incompatible Waste

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste

facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the rule require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

| Group 1-A | Group 1-B |
|--|---|
| Acetylene sludge | Acid sludge |
| Alkaline caustic liquids | Acid and water |
| Alkaline cleaner | Battery acid |
| Alkaline corrosive liquids | Chemical cleaners |
| Alkaline corrosive battery fluid | Electrolyte, acid |
| Caustic wastewater | Etching acid liquid or solvent |
| Lime sludge and other corrosive alkalies | |
| Lime wastewater | Pickling liquor and other corrosive acids |
| Lime and water | Spent acid |
| Spent caustic | Spent mixed acid |
| | Spent sulfuric acid |

Potential consequences: Heat generation; violent reaction.

| Group 2-A | Group 2-B |
|------------------|-------------------------------|
| Aluminum | Any waste in Group 1-A or 1-B |

| | |
|--|--|
| Beryllium | |
| Calcium | |
| Lithium | |
| Magnesium | |
| Potassium | |
| Sodium | |
| Zinc powder | |
| Other reactive metals and metal hydrides | |

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

| Group 3-A | Group 3-B |
|------------------|--|
| Alcohols | Any concentrated waste in Groups 1-A or 1-B |
| Water | Calcium |
| | Lithium |
| | Metal hydrides |
| | Potassium |
| | SO ₂ Cl ₂ , SOCl ₂ , PCl ₃ , CH ₃ SiCl ₃ |
| | Other water-reactive waste |

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

| Group 4-A | Group 4-B |
|---|--------------------------------------|
| Alcohols | Concentrated Group 1-A or 1-B wastes |
| Aldehydes | Group 2-A wastes |
| Halogenated hydrocarbons | |
| Nitrated hydrocarbons | |
| Unsaturated hydrocarbons | |
| Other reactive organic compounds and solvents | |

Potential consequences: Fire, explosion, or violent reaction.

| Group 5-A | Group 5-B |
|-------------------------------------|------------------|
| Spent cyanide and sulfide solutions | Group 1-B wastes |

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

| Group 6-A | Group 6-B |
|------------------------|--|
| Chlorates | Acetic acid and other organic acids |
| Chlorine | Concentrated mineral acids |
| Chlorites | Group 2-A wastes |
| Chromic acid | Group 4-A wastes |
| Hyphochlorites | Other flammable and combustible wastes |
| Nitrates | |
| Nitric acid, fuming | |
| Perchlorates | |
| Permanganates | |
| Peroxides | |
| Other strong oxidizers | |

Potential consequences: Fire, explosion, or violent reaction.

Source: “Law, Regulations, and Guidelines for Handling of Hazardous Waste.” California Department of Health, February 1975.

Appendix VI to Section 265 — Compounds With Henry’s Law Constant Less Than 0.1 Y/X

| Compound name | CAS No. |
|------------------------------|----------------|
| Acetaldol | 107-89-1 |
| Acetamide | 60-35-5 |
| 2-Acetylaminofluorene | 53-96-3 |
| 3-Acetyl-5-hydroxypiperidine | |

| | |
|----------------------------|------------|
| 3-Acetylpiperidine | 618-42-8 |
| 1-Acetyl-2-thiourea | 591-08-2 |
| Acrylamide | 79-06-1 |
| Acrylic acid | 79-10-7 |
| Adenine | 73-24-5 |
| Adipic acid | 124-04-9 |
| Adiponitrile | 111-69-3 |
| Alachlor | 15972-60-8 |
| Aldicarb | 116-06-3 |
| Ametryn | 834-12-8 |
| 4-Aminobiphenyl | 92-67-1 |
| 4-Aminopyridine | 504-24-5 |
| Aniline | 62-53-3 |
| o-Anisidine | 90-04-0 |
| Anthraquinone | 84-65-1 |
| Atrazine | 1912-24-9 |
| Benzenearsonic acid | 98-05-5 |
| Benzenesulfonic acid | 98-11-3 |
| Benzidine | 92-87-5 |
| Benzo(a)anthracene | 56-55-3 |
| Benzo(k)fluoranthene | 207-08-9 |
| Benzoic acid | 65-85-0 |
| Benzo(g,h,i)perylene | 191-24-2 |
| Benzo(a)pyrene | 50-32-8 |
| Benzyl alcohol | 100-51-6 |
| gamma-BHC | 58-89-9 |
| Bis(2-ethylhexyl)phthalate | 117-81-7 |
| Bromochloromethyl acetate | |
| Bromoxynil | 1689-84-5 |
| Butyric acid | 107-92-6 |

| | |
|---|-----------------------|
| Caprolactam (hexahydro-2H-azepin-2-one) | 105-60-2 |
| Catechol (o-dihydroxybenzene) | 120-80-9 |
| Cellulose | 9004-34-6 |
| Cell wall | |
| Chlorhydrin (3-Chloro-1,2-propanediol) | 96-24-2 |
| Chloroacetic acid | 79-11-8 |
| 2-Chloroacetophenone | 93-76-5 |
| p-Chloroaniline | 106-47-8 |
| p-Chlorobenzophenone | 134-85-0 |
| Chlorobenzilate | 510-15-6 |
| p-Chloro-m-cresol (6-chloro-m-cresol) | 59-50-7 |
| 3-Chloro-2,5-diketopyrrolidine | |
| Chloro-1,2-ethane diol | |
| 4-Chlorophenol | 106-48-9 |
| Chlorophenol polymers (2-chlorophenol & 4-chlorophenol) | 95-57-8 & 106-48-9 |
| 1-(o-Chlorophenyl)thiourea | 5344-82-1 |
| Chrysene | 218-01-9 |
| Citric acid | 77-92-9 |
| Creosote | 8001-58-9 |
| m-Cresol | 108-39-4 |
| o-Cresol | 95-48-7 |
| p-Cresol | 106-44-5 |
| Cresol (mixed isomers) | 1319-77-3 |
| 4-Cumylphenol | 27576-86 |
| Cyanide | 57-12-5 |
| 4-Cyanomethyl benzoate | |
| Diazinon | 333-41-5 |
| Dibenzo(a,h)anthracene | 53-70-3 |
| Dibutylphthalate | 84-74-2 |

| | |
|--|------------|
| 2,5-Dichloroaniline (N,N'-dichloroaniline) | 95-82-9 |
| 2,6-Dichlorobenzonitrile 11 | 1194-65-6 |
| 2,6-Dichloro-4-nitroaniline | 99-30-9 |
| 2,5-Dichlorophenol | 333-41-5 |
| 3,4-Dichlorotetrahydrofuran | 3511-19 |
| Dichlorvos (DDVP) | 62-73-7 |
| Diethanolamine | 111-42-2 |
| N,N-Diethylaniline | 91-66-7 |
| Diethylene glycol | 111-46-6 |
| Diethylene glycol dimethyl ether (dimethyl Carbitol) | 111-96-6 |
| Diethylene glycol monobutyl ether (butyl Carbitol) | 112-34-5 |
| Diethylene glycol monoethyl ether acetate (Carbitol acetate) | 112-15-2 |
| Diethylene glycol monoethyl ether (Carbitol Cellosolve) | 111-90-0 |
| Diethylene glycol monomethyl ether (methyl Carbitol) | 111-77-3 |
| N,N'-Diethylhydrazine | 1615-80-1 |
| Diethyl (4-methylumbelliferyl) thionophosphate | 299-45-6 |
| Diethyl phosphorothioate | 126-75-0 |
| N,N'-Diethylpropionamide | 15299-99-7 |
| Dimethoate | 60-51-5 |
| 2,3-Dimethoxystrychnidin-10-one | 357-57-3 |
| 4-Dimethylaminoazobenzene | 60-11-7 |
| 7,12-Dimethylbenz(a)anthracene | 57-97-6 |
| 3,3-Dimethylbenzidine | 119-93-7 |
| Dimethylcarbamoyl chloride | 79-44-7 |
| Dimethyldisulfide | 624-92-0 |
| Dimethylformamide | 68-12-2 |
| 1,1-Dimethylhydrazine | 57-14-7 |
| Dimethylphthalate | 131-11-3 |
| Dimethylsulfone | 67-71-0 |
| Dimethylsulfoxide | 67-68-5 |

| | |
|--|-----------|
| 4,6-Dinitro-o-cresol | 534-52-1 |
| 1,2-Diphenylhydrazine | 122-66-7 |
| Dipropylene glycol (1,1'-oxydi-2-propanol) | 110-98-5 |
| Endrin | 72-20-8 |
| Epinephrine | 51-43-4 |
| mono-Ethanolamine | 141-43-5 |
| Ethyl carbamate (urethane) | 5-17-96 |
| Ethylene glycol | 107-21-1 |
| Ethylene glycol monobutyl ether (butyl Cellosolve) | 111-76-2 |
| Ethylene glycol monoethyl ether (Cellosolve) | 110-80-5 |
| Ethylene glycol monoethyl ether acetate (Cellosolve acetate) | 111-15-9 |
| Ethylene glycol monomethyl ether (methyl Cellosolve) | 109-86-4 |
| Ethylene glycol monophenyl ether (phenyl Cellosolve) | 122-99-6 |
| Ethylene glycol monopropyl ether (propyl Cellosolve) | 2807-30-9 |
| Ethylene thiourea (2-imidazolidinethione) | 96-45-7 |
| 4-Ethylmorpholine | 100-74-3 |
| 3-Ethylphenol | 620-17-7 |
| Fluoroacetic acid, sodium salt | 62-74-8 |
| Formaldehyde | 50-00-0 |
| Formamide | 75-12-7 |
| Formic acid | 64-18-6 |
| Fumaric acid | 110-17-8 |
| Glutaric acid | 110-94-1 |
| Glycerin (Glycerol) | 56-81-5 |
| Glycidol | 556-52-5 |
| Glycinamide | 598-41-4 |
| Glyphosate | 1071-83-6 |
| Guthion | 86-50-0 |
| Hexamethylene-1,6-diisocyanate (1,6-diisocyanatohexane) | 822-06-0 |
| Hexamethyl phosphoramidate | 680-31-9 |

| | |
|---|------------|
| Hexanoic acid | 142-62-1 |
| Hydrazine | 302-01-2 |
| Hydrocyanic acid | 74-90-8 |
| Hydroquinone | 123-31-9 |
| Hydroxy-2-propionitrile (hydracrylonitrile) | 109-78-4 |
| Indeno (1,2,3-cd) pyrene | 193-39-5 |
| Lead acetate | 301-04-2 |
| Lead subacetate (lead acetate, monobasic) | 1335-32-6 |
| Leucine | 61-90-5 |
| Malathion | 121-75-5 |
| Maleic acid | 110-16-7 |
| Maleic anhydride | 108-31-6 |
| Mesityl oxide | 141-79-7 |
| Methane sulfonic acid | 75-75-2 |
| Methomyl | 16752-77-5 |
| p-Methoxyphenol | 150-76-5 |
| Methyl acrylate | 96-33-3 |
| 4,4'-Methylene-bis-(2-chloroaniline) | 101-14-4 |
| 4,4'-Methylenediphenyl diisocyanate (diphenyl methane diisocyanate) | 101-68-8 |
| 4,4'-Methylenedianiline | 101-77-9 |
| Methylene diphenylamine (MDA) | |
| 5-Methylfurfural | 620-02-0 |
| Methylhydrazine | 60-34-4 |
| Methyliminoacetic acid | |
| Methyl methane sulfonate | 66-27-3 |
| 1-Methyl-2-methoxyaziridine | |
| Methylparathion | 298-00-0 |
| Methyl sulfuric acid (sulfuric acid, dimethyl ester) | 77-78-1 |
| 4-Methylthiophenol | 106-45-6 |
| Monomethylformamide (N-methylformamide) | 123-39-7 |

| | |
|---|-----------|
| Nabam | 142-59-6 |
| alpha-Naphthol | 90-15-3 |
| beta-Naphthol | 135-19-3 |
| alpha-Naphthylamine | 134-32-7 |
| beta-Naphthylamine | 91-59-8 |
| Neopentyl glycol (dimethylpropane) | 126-30-7 |
| Niacinamide | 98-92-0 |
| o-Nitroaniline | 88-74-4 |
| Nitroglycerin | 55-63-0 |
| 2-Nitrophenol | 88-75-5 |
| 4-Nitrophenol | 100-02-7 |
| N-Nitrosodimethylamine | 62-75-9 |
| Nitrosoguanidine | 674-81-7 |
| N-Nitroso-n-methylurea | 684-93-5 |
| N-Nitrosomorpholine (4-nitrosomorpholine) | 59-89-2 |
| Oxalic acid | 144-62-7 |
| Parathion | 56-38-2 |
| Pentaerythritol | 115-77-5 |
| Phenacetin | 62-44-2 |
| Phenol | 108-95-2 |
| Phenylacetic acid | 103-82-2 |
| m-Phenylene diamine | 108-45-2 |
| o-Phenylene diamine | 95-54-5 |
| p-Phenylene diamine | 106-50-3 |
| Phenyl mercuric acetate | 62-38-4 |
| Phorate | 298-02-2 |
| Phthalic anhydride | 85-44-9 |
| alpha-Picoline (2-methyl pyridine) | 109-06-8 |
| 1,3-Propane sultone | 1120-71-4 |
| beta-Propiolactone | 57-57-8 |

| | |
|---------------------------------------|------------|
| Proporur (Baygon) | |
| Propylene glycol | 57-55-6 |
| Pyrene | 129-00-0 |
| Pyridinium bromide | 39416-48-3 |
| Quinoline | 91-22-5 |
| Quinone (p-benzoquinone) | 106-51-4 |
| Resorcinol | 108-46-3 |
| Simazine | 122-34-9 |
| Sodium acetate | 127-09-3 |
| Sodium formate | 141-53-7 |
| Strychnine | 57-24-9 |
| Succinic acid | 110-15-6 |
| Succinimide | 123-56-8 |
| Sulfanilic acid | 121-47-1 |
| Terephthalic acid | 100-21-0 |
| Tetraethyldithiopyrophosphate | 3689-24-5 |
| Tetraethylenepentamine | 112-57-2 |
| Thiofanox | 39196-18-4 |
| Thiosemicarbazide | 79-19-6 |
| 2,4-Toluenediamine | 95-80-7 |
| 2,6-Toluenediamine | 823-40-5 |
| 3,4-Toluenediamine | 496-72-0 |
| 2,4-Toluene diisocyanate | 584-84-9 |
| p-Toluic acid | 99-94-5 |
| m-Toluidine | 108-44-1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 |
| Triethanolamine | 102-71-6 |
| Triethylene glycol dimethyl ether | |
| Tripropylene glycol | 24800-44-0 |
| Warfarin | 81-81-2 |

| | |
|----------------------------------|---------|
| 3,4-Xylenol (3,4-dimethylphenol) | 95-65-8 |
|----------------------------------|---------|

**Section 266 – STANDARDS FOR
THE MANAGEMENT OF SPECIFIC
HAZARDOUS WASTES AND
SPECIFIC TYPES OF HAZARDOUS
WASTE MANAGEMENT FACILITIES**

Subparts A - B [Reserved]

Subsection C -- Recyclable Materials Used in a Manner Constituting Disposal

§ 266.20 Applicability.

§ 266.21 Standards applicable to generators and transporters of materials used in a manner that constitute disposal.

§ 266.22 Standards applicable to storers of materials that are to be used in a manner that constitutes disposal who are not the ultimate users.

§ 266.23 Standards applicable to users of materials that are used in a manner that constitutes disposal.

Subsection D -- [Reserved]

Subsection E -- [Reserved]

Subsection F - Recyclable Materials Utilized for Precious Metal Recovery

§ 266.70 Applicability and requirements.

Subsection G - Spent Lead-Acid Batteries Being Reclaimed

§ 266.80 Applicability and requirements.

Subsection H -- Hazardous Waste Burned in Boilers and Industrial Furnaces

§ 266.100 Applicability.

§ 266.101 Management prior to burning.

§ 266.102 Permit standards for burners.

§ 266.103 Interim status standards for burners.

§ 266.104 Standards to control organic emissions.

§ 266.105 Standards to control particulate matter.

§ 266.106 Standards to control metals emissions.

§ 266.107 Standards to control hydrogen chloride (HCl) and chlorine gas (Cl₂) emissions.

§ 266.108 Small quantity on-site burner exemption.

§ 266.109 Low risk waste exemption.

§ 266.110 Waiver of DRE trial burn for boilers.

§ 266.111 Standards for direct transfer.

§ 266.112 Rule of residues.

Subsections I-L (Reserved)

Subsection M — Military Munitions

§ 266.200 Applicability.

§ 266.201 Definitions.

§ 266.202 Definition of solid waste.

§ 266.203 Standards applicable to the transportation of solid waste military munitions.

§ 266.204 Standards applicable to emergency responses.

§ 266.205 Standards applicable to the storage of solid waste military munitions.

§ 266.206 Standards applicable to the treatment and disposal of waste military munitions.

Subsection N — Conditional Exemption for Low-Level Mixed Waste Storage, Treatment, Transportation and Disposal

Terms

§ 266.210 What definitions apply to this subpart?

Storage and Treatment Conditional Exemption and Eligibility

§ 266.220 What does a storage and treatment conditional exemption do?

§ 266.225 What wastes are eligible for the storage and treatment conditional exemption?

§ 266.230 What conditions must you meet for your LLMW to qualify for and maintain a storage and treatment exemption?

Treatment

§ 266.235 What waste treatment does the storage and treatment conditional exemption allow?

Loss of Conditional Exemption

§ 266.240 How could you lose the conditional exemption for your LLMW and what action must you take?

§ 266.245 If you lose the storage and treatment conditional exemption for your LLMW, can the exemption be reclaimed?

Record Keeping

§ 266.250 What records must you keep at your facility and for how long?

Reentry Into RCRA

§ 266.255 When is your low-level mixed waste no longer eligible for the storage conditional exemption?

Storage Unit Closure

§ 266.260 Do closure requirements apply to units that stored LLMW prior to the effective date of subpart N?

Transportation and Disposal Conditional Exemption

§ 266.305 What does the transportation and disposal conditional exemption do?

Eligibility

§ 266.310 What wastes are eligible for the transportation and disposal conditional exemption?

Conditions

§ 266.315 What are the conditions you must meet for your waste to qualify for and maintain the transportation and disposal exemption?

§ 266.320 What treatment standards must your eligible waste meet?

§ 266.325 Are you subject to the manifest and transportation condition in Sec. 266.315(b)?

§ 266.330 When does the transportation and disposal exemption take effect?

§ 266.335 Where must your exempted waste be disposed of?

§ 266.340 What type of container must be used for disposal of exempted waste?

Notification

§ 266.345 Whom must you notify?

Recordkeeping

§ 266.350 What records must you keep at your facility and for how long?

Loss of Transportation and Disposal Conditional Exemption

§ 266.355 How could you lose the transportation and disposal conditional exemption for your waste and what actions must you take?

§ 266.360 If you lose the transportation and disposal conditional exemption for a waste, can the exemption be reclaimed?

Appendices to Section 266

Appendix I - Tier I and Tier II Feed Rate and Emissions Screening Limits for Metals

Appendix II - Tier I Feed Rate Screening Limits for Total Chlorine and Chloride

Appendix III - Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride

Appendix IV - Reference Air Concentrations

Appendix V - Risk Specific Doses (10^{-5})

Appendix VI - Stack Plume Rise

Appendix VII - Health-Based Limits for Exclusion of Waste-Derived Residues

Appendix VIII - Potential PICs for Determination of Exclusion of Waste-Derived Residues

Appendix IX - [Reserved]

Appendix X - [Reserved]

Appendix XI.-Lead-bearing materials that may be processed in exempt lead smelters

Appendix XII.-Nickel or chromium-bearing materials that may be processed in exempt nickel-chromium recovery furnaces

Subsections A -- B [Reserved]

Subsection C -- Recyclable Materials Used in a Manner Constituting Disposal

§ 266.20 Applicability

(a) The rules of this subsection apply to recyclable materials that are applied to or placed on the land:

(1) Without mixing with any other substance(s); or

(2) After mixing or combination with any other substance(s). These materials will be referred to throughout this subsection as “materials used in a manner that constitutes disposal.”

(b) Products produced for the general public’s use that are used in a manner that constitutes disposal and that contain recyclable materials have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means and if such products meet the applicable treatment standards in subsection D of Section 268 (or applicable prohibition levels in § 268.32 or RCRA section 3004(d), where no treatment standards have been established) for

each recyclable material (i.e., hazardous waste) that they contain and the recycler complies with § 268.7(b)(6) of this rule.

(c) Anti-skid/deicing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of hazardous waste K061, K062, and F006, in a manner constituting disposal are not covered by the exemption in paragraph (b) of this section and remain subject to rule.

(d) Fertilizers that contain recyclable materials are not subject to rule provided that:

(1) They are zinc fertilizers excluded from the definition of solid waste according to § 261.4(a)(21) of this rule; or

(2) They meet the applicable treatment standards in subsection D of Section 268 of this rule for each hazardous waste that they contain.

§ 266.21 Standards applicable to generators and transporters of materials used in a manner that constitute disposal

Generators and transporters of materials that are used in a manner that constitutes disposal are subject to the applicable requirements of Sections 262 and 263 of this rule, and the notification requirement under Section 3010 of RCRA.

§ 266.22 Standards applicable to storers of materials that are to be used in a manner that constitutes disposal who are not the ultimate users

Owners or operators of facilities that store recyclable materials that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the materials, are regulated under all applicable provisions of subsections A through L of Sections 264, 265, 267 and Section 270 of this rule and the notification requirement under Section 3010 of RCRA.

§ 266.23 Standards applicable to users of materials that are used in a manner that constitutes disposal

(a) Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of subparts A through N of Sections 264, 265, 268, and Section 270 of this rule and the notification requirement under Section 3010 of RCRA. (These requirements do not apply to products which contain these recyclable materials under the provisions of § 266.20(b) of this rule.)

(b) The use of waste or used oil or other material, which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited.

Subsection D -- [Reserved]

Subsection E [Reserved]

Subsection F -- Recyclable Materials Utilized for Precious Metal Recovery

§ 266.70 Applicability and requirements

(a) The rules of this subsection apply to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these.

(b) Persons who generate, transport, or store recyclable materials that are regulated under this subsection are subject to the following requirements:

- (1) Notification requirements under Section 3010 of RCRA;
- (2) Subsection B of Section 262 (for generators), §263.20 and §263.21 (for transporters), and §265.71 and §265.72 (for persons who store) of this rule; and
- (3) For precious metals exported to or imported from other countries for recovery, subsection H of Section 262 and § 265.12 of this rule.

(c) Persons who store recycled materials that are regulated under this subsection must keep the following records to document that they are not accumulating these materials speculatively (as defined in § 261.1(c) of this rule);

- (1) Records showing the volume of these materials stored at the beginning of the calendar year;
- (2) The amount of these materials generated or received during the calendar year; and
- (3) The amount of materials remaining at the end of the calendar year.

(d) Recyclable materials that are regulated under this subsection that are accumulated speculatively (as defined in § 261.1(c) of this rule) are subject to all applicable provisions of Sections 262 through 265, 267, and 270 of this rule and 40 CFR 124.

Subsection G -- Spent Lead-Acid Batteries Being Reclaimed

§ 266.80 Applicability and requirements

(a) Are spent lead-acid batteries exempt from hazardous waste management requirements? If you generate, collect, transport, store, or regenerate lead-acid batteries for reclamation purposes, you may be exempt from certain hazardous waste management requirements. Use the following table to determine which requirements apply to you. Alternatively, you may choose to manage your spent lead-acid batteries under the “Universal Waste” rule in Section 273.

(b) If I store spent lead-acid batteries before I reclaim them but not through regeneration, which requirements apply? The requirements of paragraph (b) of this section apply to you if you store spent lead-acid batteries before you reclaim them, but you don’t reclaim them through regeneration. The requirements are slightly different depending on your RCRA permit status.

- (1) For Interim Status Facilities, you must comply with:
 - (i) Notification requirements under section 3010 of RCRA.
 - (ii) All applicable provisions in subsection A of Section 265 of this rule.
 - (iii) All applicable provisions in subsection B of Section 265 of this rule, except § 265.13 (waste analysis).
 - (iv) All applicable provisions in subsections C and D of Section 265 of this rule.
 - (v) All applicable provisions in subsection E of Section 265 of this rule, except §§ 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies).
 - (vi) All applicable provisions in subsections F through L of Section 265 of this rule.

- (vii) All applicable provisions in Section 270 of this rule and 40 CFR 124.
- (vii) All applicable provisions in Section 267 of this rule.
- (2) For Permitted Facilities.
 - (i) Notification requirements under section 3010 of RCRA.
 - (ii) All applicable provisions in subsection A of Section 264 of this rule.
 - (iii) All applicable provisions in subpart B of Section 264 of this rule (but not § 264.13 (waste analysis).
 - (iv) All applicable provisions in subsections C and D of Section 264 of this rule.
 - (v) All applicable provisions in subsection E of Section 264 of this rule (but not § 264.71 or § 264.72 (dealing with the use of the manifest and manifest discrepancies).
 - (vi) All applicable provisions in subsections F through L of Section 264 of this rule.
 - (vii) All applicable provisions in Section 270 of this rule and 40 CFR 124.
 - (vii) All applicable provisions in Section 267 of this rule.

§ 266.80(a) Table:

| ... If your batteries | And if you | Then you . | ... And you |
|--|--|---|---|
| (1) Will be reclaimed through regeneration (such as by electrolyte replacement). | | ...are exempt from §§ 262 (except for § 262.11), 263, 264, 265, 266, 268, and 270 of this rule, and the notification requirements at § 3010 of RCRA. | ... are subject to § 261 and § 262.11 of this rule. |
| (2) Will be reclaimed other than through regeneration. | generate, collect, and/or transport these batteries. | .. are exempt from Sections 262 (except for § 262.11), 263, 264, 265, 266, and 270 of this rule, and the notification requirements at § 3010 of RCRA. | ... are subject to § 261 and § 262.11, and applicable provisions under § 268. |
| (3) Will be reclaimed other than through regeneration. | store these batteries but you aren't the reclaimer. | .. are exempt from §§ 262 (except for § 262.11), 263, 264, 265, 266, and 270 of | ... are subject to § 261 and § 262.11, and applicable provisions under § 268. |

| | | | |
|--|--|--|--|
| | | this rule, and the notification requirements at § 3010 of RCRA. | |
| (4) Will be reclaimed other than through regeneration. | store these batteries before you reclaim them. | must comply with § 266.80(b) and as appropriate other regulatory provisions described in § 266.80(b). | ... are subject to § 261, § 262.11, and applicable provisions under § 268. |
| (5) Will be reclaimed other than through regeneration. | don't store these batteries before you reclaim them. | ... are exempt from §§ 262 (except for § 262.11), 263, 264, 265, 266, and 270 of this rule, and the notification requirements at § 3010 of RCRA. | ... are subject to § 261, § 262.11, and applicable provisions under § 268. |
| (6) Will be reclaimed through regeneration or any other means. | export these batteries for reclamation in a foreign country. | ... are exempt from §§ 262 (except for § 262.11, § 262.18 and subsection H), 263, 264, 265, 266, 268, and 270 of this rule, 40 CFR Part 124, and the notification requirements at §Section 3010 of RCRA. | ... are subject to § 261, § 262.11, § 262.18 and § 262, subsection H of this rule. |
| (7) Will be reclaimed through regeneration or any other means. | Transport these batteries in the U.S. to export them for reclamation in a foreign country. | ...are exempt from §§ 263,264,265,266,268, and 270 of this rule, 40 CFR Part 124, and the notification requirements at section 3010 of RCRA. | ...must comply with applicable requirements in § 262, subsection H of this rule. |
| (8) Will be reclaimed other than through regeneration | Import these batteries from foreign country and store these batteries but you aren't the reclaimer | are exempt from sections 262 (except for § 262.11, § 262.18 and subsection H), 263, 264, 265, 266, 270, of this section, 40 CFR Part 124, and | are subject to sections 261, § 262.11, § 262.18, part 262 subsection H, and applicable provisions under section 268. |

| | | | |
|--|---|---|---|
| | | the notification requirements at section 3010 of RCRA | |
| (9) Will be reclaimed other than through regeneration | Import these batteries from foreign country and store these batteries before you reclaim them | must comply with 266.80(b) and as appropriate other regulatory provisions described in 266.80(b) | are subject to sections 261, § 262.11, § 262.18, section 262 subsection H, and applicable provisions under 268. |
| (10) Will be reclaimed other than through regeneration | Import these batteries from foreign country and don't store these batteries before you reclaim them | are exempt from sections 262 (except for § 262.11, § 262.18 and subsection H), 263, 264, 265, 266, 270, 124 of this section, 40 CFR Part 124, and the notification requirements at section 3010 of RCRA | are subject to sections 261, § 262.11, § 262.18, part 262 subsection H, and applicable provisions under 268. |

Subsection H – Hazardous Waste Burned in Boilers and Industrial Furnaces

§ 266.100 Applicability

(a) The rules of this subsection apply to hazardous waste burned or processed in a boiler or industrial furnace (as defined in § 260.10 of this rule) irrespective of the purpose of burning or processing, except as provided by paragraphs (b), (c), (d), (g), and (h) of this subsection. In this subpart, the term “burn” means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient. The emissions standards of §§ 266.104, 266.105, 266.106, and 266.107 apply to facilities operating under interim status or under a RCRA permit as specified in §§ 266.102 and 266.103.

(b) Integration of the MACT standards.

(1) Except as provided by paragraphs (b)(2), (b)(3), and (b)(4) of this subsection, the standards of this section do not apply to a new hazardous waste boiler or industrial furnace unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply when an owner or operator of an existing hazardous waste boiler or industrial furnace unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR Part 63, Subpart EEE, by conducting a comprehensive performance test and submitting to the Director a Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR Part 63, Subpart EEE. Nevertheless, even after this

demonstration of compliance with the MACT standards, RCRA permit conditions that were based on the standards of this part will continue to be in effect until they are removed from the permit or the permit is terminated or revoked, unless the permit expressly provides otherwise.

(2) The following standards continue to apply:

(i) If you elect to comply with § 270.235(a)(1)(i) of this rule to minimize emissions of toxic compounds from startup, shutdown, and malfunction events, § 266.102(e)(1) requiring operations in accordance with the operating requirements specified in the permit at all times that hazardous waste is in the unit, and § 266.102(e)(2)(iii) requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes. These provisions apply only during startup, shutdown, and malfunction events;

(ii) The closure requirements of §§ 266.102(e)(11) and 266.103(l);

(iii) The standards for direct transfer of § 266.111;

(iv) The standards for rule of residues of § 266.112; and

(v) The applicable requirements of subsections A through H, BB and CC of sections 264 and 265 of this rule.

(3) If you own or operate a boiler or hydrochloric acid production furnace that is an area source under 40 CFR § 63.2 and you elect not to comply with the emission standards under 40 CFR §§ 63.1216, 63.1217, and 63.1218 for particulate matter, semi-volatile and low volatile metals, and total chlorine, you also remain subject to:

(i) Section 266.105 of this rule —Standards to control particulate matter;

(ii) Section 266.106 of this rule —Standards to control metals emissions, except for mercury; and

(iii) Section 266.107 of this rule —Standards to control hydrogen chloride and chlorine gas.

(4) The particulate matter standard of § 266.105 remains in effect for boilers that elect to comply with the alternative to the particulate matter standard under 40 CFR §§ 63.1216(e) and 63.1217(e).

(c) The following hazardous wastes and facilities are not subject to rule under this subsection:

(1) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in subsection C of section 261 of this rule. Such used oil is subject to rule under Section 279 of this rule;

(2) Gas recovered from hazardous or solid waste landfills when such gas is burned for energy recovery;

(3) Hazardous wastes that are exempt from rule under §§ 261.4 and 261.6(a)(3) (iii) and (iv) of this rule, and hazardous wastes that are subject to the special requirements for conditionally exempt small quantity generators under § 261.5 of this rule; and

(4) Coke ovens, if the only hazardous waste burned is EPA Hazardous Waste No. K087, decanter tank tar sludge from coking operations.

(d) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces, but not including cement kilns, aggregate kilns, or halogen acid furnaces burning hazardous waste) that process hazardous waste solely for metal recovery are conditionally exempt from rule under this

subpart, except for §§ 266.101 and 266.112.

(1) To be exempt from §§ 266.102 through 266.111, an owner or operator of a metal recovery furnace or mercury recovery furnace must comply with the following requirements, except that an owner or operator of a lead or a nickel-chromium recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, must comply with the requirements of paragraph (d)(3) of this section, and owners or operators of lead recovery furnaces that are subject to rule under the Secondary Lead Smelting NESHAP must comply with the requirements of paragraph (h) of this section.

(i) Provide a one-time written notice to the Director indicating the following:

(A) The owner or operator claims exemption under this paragraph;

(B) The hazardous waste is burned solely for metal recovery consistent with the provisions of paragraph (d)(2) of this section;

(C) The hazardous waste contains recoverable levels of metals; and

(D) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this paragraph;

(ii) Sample and analyze the hazardous waste and other feedstocks as necessary to comply with the requirements of this paragraph by using appropriate methods; and

(iii) Maintain at the facility for at least three years records to document compliance with the provisions of this paragraph including limits on levels of toxic organic constituents and BTU value of the waste, and levels of recoverable metals in the hazardous waste compared to normal nonhazardous waste feedstocks.

(2) A hazardous waste meeting either of the following criteria is not processed solely for metal recovery:

(i) The hazardous waste has a total concentration of organic compounds listed in Section 261, Appendix VIII, of this rule exceeding 500 ppm by weight, as-fired, and so is considered to be burned for destruction. The concentration of organic compounds in a waste as-generated may be reduced to the 500 ppm limit by *bona fide* treatment that removes or destroys organic constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by paragraph (d)(1)(iii) of this subsection; or

(ii) The hazardous waste has a heating value of 5,000 Btu/lb or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the 5,000 Btu/lb limit by *bona fide* treatment that removes or destroys organic constituents. Blending for dilution to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by paragraph (d)(1)(iii) of this subsection.

(3) To be exempt from §§ 266.102 through 266.111, an owner or operator of a lead or nickel-chromium or mercury recovery furnace (except for owners or operators of lead recovery furnaces subject to rule under the Secondary Lead Smelting NESHAP) or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, must provide a one-time written notice to the Director identifying each hazardous waste burned and specifying whether the owner or operator claims an exemption for each waste under this paragraph or paragraph (d)(1) of this subsection. The owners or operator must comply with the requirements of paragraph (d)(1) of this section for those wastes claimed to be exempt under that paragraph and must comply with the requirements

below for those wastes claimed to be exempt under this paragraph (d)(3).

(i) The hazardous wastes listed in Appendices XI, XII, and XIII, Section 266, and baghouse bags used to capture metallic dusts emitted by steel manufacturing are exempt from the requirements of paragraph (d)(1) of this subsection, provided that:

(A) A waste listed in appendix XI of this section must contain recoverable levels of lead, a waste listed in Appendix XII of this section must contain recoverable levels of nickel or chromium, a waste listed in Appendix XIII of this section must contain recoverable levels of mercury and contain less than 500 ppm of Section 261, Appendix VIII organic constituents, and baghouse bags used to capture metallic dusts emitted by steel manufacturing must contain recoverable levels of metal; and

(B) The waste does not exhibit the Toxicity Characteristic of § 261.24 of this rule for an organic constituent; and

(C) The waste is not a hazardous waste listed in subsection D of Section 261 of this rule because it is listed for an organic constituent as identified in Appendix VII of Section 261 of this rule; and

(D) The owner or operator certifies in the one-time notice that hazardous waste is burned under the provisions of paragraph (d)(3) of this subsection and that sampling and analysis will be conducted or other information will be obtained as necessary to ensure continued compliance with these requirements. Sampling and analysis shall be conducted according to paragraph (d)(1)(ii) of this subsection and records to document compliance with paragraph (d)(3) of this subsection shall be kept for at least three years.

(ii) The Director may decide on a case-by-case basis that the toxic organic constituents in a material listed in Appendix XI, XII, or XIII of this section that contains a total concentration of more than 500 ppm toxic organic compounds listed in Appendix VIII, Section 261 of this rule, may pose a hazard to human health and the environment when burned in a metal recovery furnace exempt from the requirements of this subsection. In that situation, after adequate notice and opportunity for comment, the metal recovery furnace will become subject to the requirements of this subpart when burning that material. In making the hazard determination, the Director will consider the following factors:

(A) The concentration and toxicity of organic constituents in the material; and

(B) The level of destruction of toxic organic constituents provided by the furnace; and

(C) Whether the acceptable ambient levels established in Appendices IV or V of this section may be exceeded for any toxic organic compound that may be emitted based on dispersion modeling to predict the maximum annual average off-site ground level concentration.

(e) The standards for direct transfer operations under § 266.111 apply only to facilities subject to the permit standards of § 266.102 or the interim status standards of § 266.103.

(f) The management standards for residues under § 266.112 apply to any boiler or industrial furnace burning hazardous waste.

(g) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces) that process hazardous waste for recovery of economically significant amounts of the precious metals

gold, silver, platinum, palladium, iridium, osmium, rhodium, or ruthenium, or any combination of these are conditionally exempt from rule under this subpart, except for § 266.112. To be exempt from §§ 266.101 through 266.111, an owner or operator must:

(1) Provide a one-time written notice to the Director indicating the following:

- (i) The owner or operator claims exemption under this paragraph;
- (ii) The hazardous waste is burned for legitimate recovery of precious metal; and
- (iii) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this paragraph; and

(2) Sample and analyze the hazardous waste as necessary to document that the waste contains economically significant amounts of the metals and that the treatment recovers economically significant amounts of precious metal; and

(3) Maintain at the facility for at least three years records to document that all hazardous wastes burned are burned for recovery of economically significant amounts of precious metal.

(h) Starting June 23, 1997, owners or operators of lead recovery furnaces that process hazardous waste for recovery of lead and that are subject to rule under the Secondary Lead Smelting NESHAP, are conditionally exempt from rule under this subpart, except for § 266.101. To be exempt, an owner or operator must provide a one-time notice to the Director identifying each hazardous waste burned and specifying that the owner or operator claims an exemption under this paragraph. The notice also must state that the waste burned has a total concentration of non-metal compounds listed in Section 261, Appendix VIII, of this rule of less than 500 ppm by weight, as fired and as provided in paragraph (d)(2)(i) of this subsection, or is listed in Appendix XI to this Section 266.

§ 266.101 Management prior to burning

(a) Generators. Generators of hazardous waste that is burned in a boiler or industrial furnace are subject to section 262 of this rule.

(b) Transporters. Transporters of hazardous waste that is burned in a boiler or industrial furnace are subject to section 263 of this rule.

(c) Storage Facilities. (1) Owners and operators of facilities that store or treat hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provisions of Sections 264, 265, 267, and 270 of this rule, except as provided by paragraph (c)(2) of this section. These standards apply to storage and treatment by the burner as well as to storage and treatment facilities operated by intermediaries (processors, blenders, distributors, etc.) between the generator and the burner.

(2) Owners and operators of facilities that burn, in an onsite boiler or industrial furnace exempt from rule under the small quantity burner provisions of § 266.108, hazardous waste that they generate are exempt from the rules of Sections 264, 265, 267 and 270 of this rule applicable to storage units for those storage units that store mixtures of hazardous waste and the primary fuel to the boiler or industrial furnace in tanks that feed the fuel mixture directly to the burner. Storage of hazardous waste prior to mixing with the primary fuel is subject to rule as prescribed in paragraph (c)(1) of this subsection.

§ 266.102 Permit standards for burners

(a) Applicability-(1) General. Owners and operators of boilers and industrial furnaces burning

hazardous waste and not operating under interim status must comply with the requirements of this section and §§ 270.22 and 270.66 of this rule, unless exempt under the small quantity burner exemption of § 266.108.

(2) Applicability of Section 264 standards. Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions of section 264 of this rule, except as provided otherwise by this subpart:

- (i) In subsection A (General), 264.4;
- (ii) In subsection B (General Facility Standards), §§ 264.11-264.18;
- (iii) In subsection C (Preparedness and Prevention), §§ 264.31-264.37;
- (iv) In subsection D (Contingency Plan and Emergency Procedures), §§ 264.51-264.56;
- (v) In subsection E (Manifest System, recordkeeping, and reporting), the applicable provisions of §§ 264.71-264.77;
- (vi) In subsection F (Releases From Solid Waste Management Units), §§ 264.90 and 264.101;
- (vii) In subsection G (Closure and post-closure), §§ 264.111-264.115;
- (viii) In subsection H (Financial requirements), §§ 264.141, 264.142, 264.143, and 264.147-264.151, except that States and the Federal government are exempt from the requirements of subsection H; and
- (ix) Subsection BB (Air emission standards for equipment leaks), except §§ 264.1050(a).

(b) Hazardous waste analysis.

(1) The owner or operator must provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in appendix VIII of Section 261 of this Rule that may reasonably be expected to be in the waste. Such constituents must be identified and quantified if present, at levels detectable by using appropriate analytical procedures. The appendix VIII, Section 261 constituents excluded from this analysis must be identified and the basis for their exclusion explained. This analysis will be used to provide all information required by this Subsection and §§ 270.22 and 270.66 of this Rule and to enable the permit writer to prescribe such permit conditions as necessary to protect human health and the environment. Such analysis must be included as a portion of the part B permit application, or, for facilities operating under the interim status standards of this Subsection, as a portion of the trial burn plan that may be submitted before the part B application under provisions of § 270.66(g) of this Rule as well as any other analysis required by the permit authority in preparing the permit. Owners and operators of boilers and industrial furnaces not operating under the interim status standards must provide the information required by §§ 270.22 or 270.66(c) of this Rule in the part B application to the greatest extent possible.

(2) Throughout normal operation, the owner or operator must conduct sampling and analysis as necessary to ensure that the hazardous waste, other fuels, and industrial furnace feedstocks fired into the boiler or industrial furnace are within the physical and chemical composition limits specified in the permit.

(c) Emissions standards. Owners and operators must comply with emissions standards provided by §§ 266.104 through 266.107.

(d) Permits. (1) The owner or operator may burn only hazardous wastes specified in the facility permit and only under the operating conditions specified under paragraph (e) of this section, except

in approved trial burns under the conditions specified in § 270.66 of this rule.

(2) Hazardous wastes not specified in the permit may not be burned until operating conditions have been specified under a new permit or permit modification, as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with part B of a permit application under § 270.22 of this rule.

(3) Boilers and industrial furnaces operating under the interim status standards of § 266.103 are permitted under procedures provided by § 270.66(g) of this rule.

(4) A permit for a new boiler or industrial furnace (those boilers and industrial furnaces not operating under the interim status standards) must establish appropriate conditions for each of the applicable requirements of this section, including but not limited to allowable hazardous waste firing rates and operating conditions necessary to meet the requirements of paragraph (e) of this section, in order to comply with the following standards:

(i) For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the device to a point of operational readiness to conduct a trial burn, not to exceed a duration of 720 hours operating time when burning hazardous waste, the operating requirements must be those most likely to ensure compliance with the emission standards of §§ 266.104 through 266.107, based on the Director's engineering judgment. If the applicant is seeking a waiver from a trial burn to demonstrate conformance with a particular emission standard, the operating requirements during this initial period of operation shall include those specified by the applicable provisions of § 266.104, § 266.105, § 266.106, or § 266.107. The Director may extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(ii) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the emissions standards of §§ 266.104 through 266.107 and must be in accordance with the approved trial burn plan;

(iii) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, submission of the trial burn results by the applicant, review of the trial burn results and modification of the facility permit by the Director to reflect the trial burn results, the operating requirements must be those most likely to ensure compliance with the emission standards §§ 266.104 through 266.107 based on the Director's engineering judgment.

(iv) For the remaining duration of the permit, the operating requirements must be those demonstrated in a trial burn or by alternative data specified in § 270.22 of this rule, as sufficient to ensure compliance with the emissions standards of §§ 266.104 through 266.107.

(e) Operating requirements - (1) General. A boiler or industrial furnace burning hazardous waste must be operated in accordance with the operating requirements specified in the permit at all times where there is hazardous waste in the unit.

(2) Requirements to ensure compliance with the organic emissions standards- (i) DRE standard. Operating conditions will be specified either on a case-by-case basis for each hazardous waste burned as those demonstrated (in a trial burn or by alternative data as specified in § 270.22) to be sufficient to comply with the destruction and removal efficiency (DRE) performance standard of § 266.104(a) or as those special operating requirements

provided by § 266.104(a)(4) for the waiver of the DRE trial burn. When the DRE trial burn is not waived under § 266.104(a)(4), each set of operating requirements will specify the composition of the hazardous waste (including acceptable variations in the physical and chemical properties of the hazardous waste which will not affect compliance with the DRE performance standard) to which the operating requirements apply. For each such hazardous waste, the permit will specify acceptable operating limits including, but not limited to, the following conditions as appropriate:

(A) Feed rate of hazardous waste and other fuels measured and specified as prescribed in paragraph (e)(6) of this section;

(B) Minimum and maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (e)(6) of this section;

(C) Appropriate controls of the hazardous waste firing system;

(D) Allowable variation in boiler and industrial furnace system design or operating procedures;

(E) Minimum combustion gas temperature measured at a location indicative of combustion chamber temperature, measured and specified as prescribed in paragraph (e)(6) of this section;

(F) An appropriate indicator of combustion gas velocity, measured and specified as prescribed in paragraph (e)(6) of this section, unless documentation is provided under § 270.66 of this rule demonstrating adequate combustion gas residence time; and

(G) Such other operating requirements as are necessary to ensure that the DRE performance standard of § 266.104(a) is met.

(ii) Carbon monoxide and hydrocarbon standards. The permit must incorporate a carbon monoxide (CO) limit and, as appropriate, a hydrocarbon (HC) limit as provided by paragraphs (b), (c), (d), (e) and (f) of § 266.104. The permit limits will be specified as follows:

(A) When complying with the CO standard of § 266.104(b)(1), the permit limit is 100 ppmv;

(B) When complying with the alternative CO standard under § 266.104(c), the permit limit for CO is based on the trial burn and is established as the average over all valid runs of the highest hourly rolling average CO level of each run, and the permit limit for HC is 20 ppmv (as defined in § 266.104(c)(1)), except as provided in § 266.104(f).

(C) When complying with the alternative HC limit for industrial furnaces under § 266.104(f), the permit limit for HC and CO is the baseline level when hazardous waste is not burned as specified by that paragraph.

(iii) Start-up and shut-down. During start-up and shut-down of the boiler or industrial furnace, hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride/chlorine, and except low risk waste exempt from the trial burn requirements under §§ 266.104(a)(5), 266.105, 266.106, and 266.107) must not be fed into the device unless the device is operating within the conditions of operation specified in the permit.

(3) Requirements to ensure conformance with the particulate standard. (i) Except as provided in paragraphs (e)(3) (ii) and (iii) of this section, the permit shall specify the following operating requirements to ensure conformance with the particulate standard

specified in § 266.105:

(A) Total ash feed rate to the device from hazardous waste, other fuels, and industrial furnace feedstocks, measured and specified as prescribed in paragraph (e)(6) of this section;

(B) Maximum device production rate when producing normal product expressed in appropriate units, and measured and specified as prescribed in paragraph (e)(6) of this section;

(C) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(D) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(E) Such other operating requirements as are necessary to ensure that the particulate standard in § 266.105(a) is met.

(ii) Permit conditions to ensure conformance with the particulate matter standard shall not be provided for facilities exempt from the particulate matter standard under § 266.105(b);

(iii) For cement kilns and light-weight aggregate kilns, permit conditions to ensure compliance with the particulate standard shall not limit the ash content of hazardous waste or other feed materials.

(4) Requirements to ensure conformance with the metals emissions standard. (i) For conformance with the Tier I (or adjusted Tier I) metals feed rate screening limits of paragraphs (b) or (e) of § 266.106, the permit shall specify the following operating requirements:

(A) Total feed rate of each metal in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified under provisions of paragraph (e)(6) of this section;

(B) Total feed rate of hazardous waste measured and specified as prescribed in paragraph (e)(6) of this section;

(C) A sampling and metals analysis program for the hazardous waste, other fuels, and industrial furnace feedstocks;

(ii) For conformance with the Tier II metals emission rate screening limits under § 266.106(c) and the Tier III metals controls under § 266.106(d), the permit shall specify the following operating requirements:

(A) Maximum emission rate for each metal specified as the average emission rate during the trial burn;

(B) Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in paragraph (e)(6)(i) of this section;

(C) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in paragraphs (e)(6) of this section:

(1) Total feed streams;

(2) Total hazardous waste feed; and

(3) Total pumpable hazardous waste feed;

(D) Total feed rate of chlorine and chloride in total feed streams measured and specified as prescribed in paragraph (e)(6) of this section;

(E) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in

paragraph (e)(6) of this section;

(F) Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (e)(6) of this section;

(G) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (e)(6) of this section;

(H) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(I) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(J) Such other operating requirements as are necessary to ensure that the metals standards under §§ 266.106(c) or 266.106(d) are met.

(iii) For conformance with an alternative implementation approach approved by the Director under § 266.106(f), the permit will specify the following operating requirements:

(A) Maximum emission rate for each metal specified as the average emission rate during the trial burn;

(B) Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in paragraph (e)(6)(i) of this section;

(C) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in paragraph (e)(6) of this section:

(1) Total hazardous waste feed; and

(2) Total pumpable hazardous waste feed;

(D) Total feed rate of chlorine and chloride in total feed streams measured and specified as prescribed in paragraph (e)(6) of this section;

(E) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in paragraph (e)(6) of this section;

(F) Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (e)(6) of this section;

(G) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (e)(6) of this section;

(H) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(I) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(J) Such other operating requirements as are necessary to ensure that the metals standards under §§ 266.106(c) or 266.106(d) are met.

(5) Requirements to ensure conformance with the hydrogen chloride and chlorine gas standards.

(i) For conformance with the Tier I total chloride and chlorine feed rate screening limits of § 266.107(b)(1), the permit will specify the following operating requirements:

(A) Feed rate of total chloride and chlorine in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified as prescribed in paragraph (e)(6) of this section;

(B) Feed rate of total hazardous waste measured and specified as prescribed in paragraph (e)(6) of this section;

(C) A sampling and analysis program for total chloride and chlorine for the hazardous waste, other fuels, and industrial furnace feedstocks;

(ii) For conformance with the Tier II HCl and Cl₂ emission rate screening limits under § 266.107(b)(2) and the Tier III HCl and Cl₂ controls under § 266.107(c), the permit will specify the following operating requirements:

(A) Maximum emission rate for HCl and for Cl₂ specified as the average emission rate during the trial burn;

(B) Feed rate of total hazardous waste measured and specified as prescribed in paragraph (e)(6) of this section;

(C) Total feed rate of chlorine and chloride in total feed streams, measured and specified as prescribed in paragraph (e)(6) of this section;

(D) Maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (e)(6) of this section;

(E) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(F) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(G) Such other operating requirements as are necessary to ensure that the HCl and Cl₂ standards under § 266.107 (b)(2) or (c) are met.

(6) Measuring parameters and establishing limits based on trial burn data-(i) General requirements. As specified in paragraphs (e)(2) through (e)(5) of this section, each operating parameter shall be measured, and permit limits on the parameter shall be established, according to either of the following procedures:

(A) Instantaneous limits. A parameter may be measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the permit limit specified as the time-weighted average during all valid runs of the trial burn; or

(B) Hourly rolling average. (I) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(ii) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

(2) The permit limit for the parameter shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average value for each run.

(ii) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (e)(6)(i) of this section or on (up to) a 24 hour rolling average basis. If the owner or operator

elects to use an average period from 2 to 24 hours:

(A) The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis;

(B) The continuous monitor shall meet the following specifications:

(1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(2) The rolling average for the selected averaging period is defined as the arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of the preceding clock hour; and

(C) The permit limit for the feed rate of each metal shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average feed rate for each run.

(iii) Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of paragraphs (e)(6) (i) and (ii) of this section.

(iv) Conduct of trial burn testing. (A) If compliance with all applicable emissions standards of §§ 266.104 through 266.107 is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards must be as close as possible to the original operating conditions.

(B) Prior to obtaining test data for purposes of demonstrating compliance with the emissions standards of §§ 266.104 through 266.107 or establishing limits on operating parameters under this section, the facility must operate under trial burn conditions for a sufficient period to reach steady-state operations. The Director may determine, however, that industrial furnaces that recycle collected particulate matter back into the furnace and that comply with an alternative implementation approach for metals under § 266.106(f) need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals emissions.

(C) Trial burn data on the level of an operating parameter for which a limit must be established in the permit must be obtained during emissions sampling for the pollutant(s) (i.e., metals, PM, HCl/Cl₂, organic compounds) for which the parameter must be established as specified by paragraph (e) of this section.

(7) General requirements-(i) Fugitive emissions. Fugitive emissions must be controlled by:

(A) Keeping the combustion zone totally sealed against fugitive emissions; or

(B) Maintaining the combustion zone pressure lower than atmospheric pressure; or

(C) An alternate means of control demonstrated (with part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(ii) Automatic waste feed cutoff. A boiler or industrial furnace must be operated with

a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this section. The Director may limit the number of cutoffs per an operating period on a case-by-case basis. In addition:

(A) The permit limit for (the indicator of) minimum combustion chamber temperature must be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber,

(B) Exhaust gases must be ducted to the air pollution control system operated in accordance with the permit requirements while hazardous waste or hazardous waste residues remain in the combustion chamber; and

(C) Operating parameters for which permit limits are established must continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the permit limits. For parameters that may be monitored on an instantaneous basis, the Director will establish a minimum period of time after a waste feed cutoff during which the parameter must not exceed the permit limit before the hazardous waste feed may be restarted.

(iii) Changes. A boiler or industrial furnace must cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits as specified in the permit.

(8) Monitoring and Inspections. (i) The owner or operator must monitor and record the following, at a minimum, while burning hazardous waste:

(A) If specified by the permit, feed rates and composition of hazardous waste, other fuels, and industrial furnace feedstocks, and feed rates of ash, metals, and total chloride and chlorine;

(B) If specified by the permit, carbon monoxide (CO), hydrocarbons (HC), and oxygen on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with operating requirements specified in paragraph (e)(2)(ii) of this section. CO, HC, and oxygen monitors must be installed, operated, and maintained in accordance with methods specified in Appendix IX of this Section

(C) Upon the request of the Director, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues, and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the applicable standards of §§ 266.104, 266.105, 266.106, and 266.107.

(ii) All monitors shall record data in units corresponding to the permit limit unless otherwise specified in the permit.

(iii) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) must be subjected to thorough visual inspection when it contains hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

(iv) The automatic hazardous waste feed cutoff system and associated alarms must be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the applicant demonstrates to the Director that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least once every 30 days.

(v) These monitoring and inspection data must be recorded and the records must be placed in the operating record required by § 264.73 of this rule.

(9) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator must comply with § 266.111.

(10) Recordkeeping. The owner or operator must maintain in the operating record of the facility all information and data required by this section for five (5) years.

(11) Closure. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace.

§ 266.103 Interim status standards for burners

(a) Purpose, scope, applicability - (1) General. (i) The purpose of this section is to establish minimum national standards for owners and operators of “existing” boilers and industrial furnaces that burn hazardous waste where such standards define the acceptable management of hazardous waste during the period of interim status. The standards of this section apply to owners and operators of existing facilities until either a permit is issued under § 266.102(d) or until closure responsibilities identified in this section are fulfilled.

(ii) “Existing or in existence” means a boiler or industrial furnace that on or before August 21, 1991 is either in operation burning or processing hazardous waste or for which construction (including the ancillary facilities to burn or to process the hazardous waste) has commenced. A facility has commenced construction if the owner or operator has obtained the Federal, State, and local approvals or permits necessary to begin physical construction; and either:

(A) A continuous on-site, physical construction program has begun; or

(B) The owner or operator has entered into contractual obligations-which cannot be canceled or modified without substantial loss-for physical construction of the facility to be completed within a reasonable time.

(iii) If a boiler or industrial furnace is located at a facility that already has a permit or interim status, then the facility must comply with the applicable rules dealing with permit modifications in § 270.42 or changes in interim status in § 270.72 of this rule.

(2) Exemptions. The requirements of this section do not apply to hazardous waste and facilities exempt under §§ 266.100(b), or 266.108.

(3) Prohibition on burning dioxin-listed wastes. The following hazardous waste listed for dioxin and hazardous waste derived from any of these wastes may not be burned in a boiler or industrial furnace operating under interim status: F020, F021, F022, F023, F026, and F027.

(4) Applicability of Section 265 standards. Owners and operators of boilers and industrial furnaces that burn hazardous waste and are operating under interim status are subject to the following provisions of section 265 of this rule, except as provided otherwise by this section:

(i) In subsection A (General), § 265.4;

(ii) In subsection B (General facility standards), §§ 265.11-265.17;

(iii) In subsection C (Preparedness and prevention), §§ 265.31-265.37;

(iv) In subsection D (Contingency plan and emergency procedures), §§ 265.51-265.56;

- (v) In subsection E (Manifest system, recordkeeping, and reporting), §§ 265.71-265.77, except that §§ 265.71, 265.72, and 265.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources;
- (vi) In subsection G (Closure and post-closure), §§ 265.111-265.115;
- (vii) In subsection H (Financial requirements), §§ 265.141, 265.142, 265.143, and 265.147 – 265.150, except that States and the Federal government are exempt from the requirements of Subsection H; and
- (viii) Subsection BB (Air emission standards for equipment leaks), except § 265.1050(a).

(5) Special requirements for furnaces. The following controls apply during interim status to industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see paragraph (a)(5)(ii) of this section) at any location other than the hot end where products are normally discharged or where fuels are normally fired:

- (i) Controls. (A) The hazardous waste shall be fed at a location where combustion gas temperatures are at least 1800 °F;

- (B) The owner or operator must determine that adequate oxygen is present in combustion gases to combust organic constituents in the waste and retain documentation of such determination in the facility record;

- (C) For cement kiln systems, the hazardous waste shall be fed into the kiln; and

- (D) The hydrocarbon controls of § 266.104(c) or paragraph (c)(5) of this section apply upon certification of compliance under paragraph (c) of this section irrespective of the CO level achieved during the compliance test.

- (ii) Burning hazardous waste solely as an ingredient. A hazardous waste is burned for a purpose other than solely as an ingredient if it meets either of these criteria:

- (A) The hazardous waste has a total concentration of nonmetal compounds listed in Section 261, Appendix VIII, of this rule exceeding 500 ppm by weight, as-fired, and so is considered to be burned for destruction. The concentration of nonmetal compounds in a waste as-generated may be reduced to the 500 ppm limit by bona fide treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the facility record; or

- (B) The hazardous waste has a heating value of 5,000 Btu/lb or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the 5,000 Btu/lb limit by bona fide treatment that removes or destroys organic constituents. Blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly blended must be retained in the facility record.

(6) Restrictions on burning hazardous waste that is not a fuel. Prior to certification of compliance under paragraph (c) of this section, owners and operators shall not feed hazardous waste that has a heating value less than 5,000 Btu/lb, as-generated, (except that the heating value of a waste as-generated may be increased to above the 5,000 Btu/lb limit by bona fide treatment; however, blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited and records must be kept to document that impermissible blending has not occurred) in a boiler or industrial furnace, except that:

- (i) Hazardous waste may be burned solely as an ingredient; or

(ii) Hazardous waste may be burned for purposes of compliance testing (or testing prior to compliance testing) for a total period of time not to exceed 720 hours; or

(iii) Such waste may be burned if the Director has documentation to show that, prior to August 21, 1991:

(A) The boiler or industrial furnace is operating under the interim status standards for incinerators provided by subsection O of section 265 of this rule, or the interim status standards for thermal treatment units provided by subsection P of Section 265 of this rule; and

(B) The boiler or industrial furnace met the interim status eligibility requirements under § 270.70 of this rule for subsection O or subsection P of Section 265 of this rule; and

(C) Hazardous waste with a heating value less than 5,000 Btu/lb was burned prior to that date; or

(iv) Such waste may be burned in a halogen acid furnace if the waste was burned as an excluded ingredient under § 261.2(e) of this rule prior to February 21, 1991 and documentation is kept on file supporting this claim.

(7) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator must comply with § 266.111.

(b) Certification of precompliance-(1) General. The owner or operator must provide complete and accurate information specified in paragraph (b)(2) of this section to the Director on or before August 21, 1991, and must establish limits for the operating parameters specified in paragraph (b)(3) of this section. Such information is termed a “certification of precompliance” and constitutes a certification that the owner or operator has determined that, when the facility is operated within the limits specified in paragraph (b)(3) of this section, the owner or operator believes that, using best engineering judgment, emissions of particulate matter, metals, and HCl and Cl₂ are not likely to exceed the limits provided by §§ 266.105, 266.106, and 266.107. The facility may burn hazardous waste only under the operating conditions that the owner or operator establishes under paragraph (b)(3) of this section until the owner or operator submits a revised certification of precompliance under paragraph (b)(8) of this section or a certification of compliance under paragraph (c) of this section, or until a permit is issued.

(2) Information required. The following information must be submitted with the certification of precompliance to support the determination that the limits established for the operating parameters identified in paragraph (b)(3) of this section are not likely to result in an exceedance of the allowable emission rates for particulate matter, metals, and HCl and Cl₂:

(i) General facility information:

(A) EPA facility ID number;

(B) Facility name, contact person, telephone number, and address;

(C) Description of boilers and industrial furnaces burning hazardous waste, including type and capacity of device;

(D) A scaled plot plan showing the entire facility and location of the boilers and industrial furnaces burning hazardous waste; and

(E) A description of the air pollution control system on each device burning hazardous waste, including the temperature of the flue gas at the inlet to the particulate matter control system.

(ii) Except for facilities complying with the Tier I or Adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by §§ 266.106 (b) or (e) and 266.107 (b)(1) or (e), respectively, the estimated uncontrolled (at the inlet to the air pollution control system) emissions of particulate matter, each metal controlled by § 266.106, and hydrogen chloride and chlorine, and the following information to support such determinations:

(A) The feed rate (lb/hr) of ash, chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream (hazardous waste, other fuels, industrial furnace feedstocks);

(B) The estimated partitioning factor to the combustion gas for the materials identified in paragraph (b)(2)(ii)(A) of this section and the basis for the estimate and an estimate of the partitioning to HCl and Cl₂ of total chloride and chlorine in feed materials. To estimate the partitioning factor, the owner or operator must use either best engineering judgment or the procedures specified in Appendix IX of this section.

(C) For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under paragraph (c)(3)(ii)(A), the estimated enrichment factor for each metal. To estimate the enrichment factor, the owner or operator must use either best engineering judgment or the procedures specified in “Alternative Methodology for Implementing Metals Controls” in Appendix IX of this section.

(D) If best engineering judgment is used to estimate partitioning factors or enrichment factors under paragraphs (b)(2)(ii)(B) or (b)(2)(ii)(C) respectively, the basis for the judgment. When best engineering judgment is used to develop or evaluate data or information and make determinations under this section, the determinations must be made by a qualified, registered professional engineer and a certification of his/her determinations in accordance with § 270.11(d) of this rule must be provided in the certification of precompliance.

(iii) For facilities complying with the Tier I or Adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by §§ 266.106 (b) or (e) and 266.107 (b)(1) or (e), the feed rate (lb/hr) of total chloride and chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feed stream (hazardous waste, other fuels, industrial furnace feedstocks).

(iv) For facilities complying with the Tier II or Tier III emission limits for metals or HCl and Cl₂ (under §§ 266.106 (c) or (d) or 266.107(b)(2) or (c)), the estimated controlled (outlet of the air pollution control system) emissions rates of particulate matter, each metal controlled by § 266.106, and HCl and Cl₂, and the following information to support such determinations:

(A) The estimated air pollution control system (APCS) removal efficiency for particulate matter, HCl, Cl₂, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium.

(B) To estimate APCS removal efficiency, the owner or operator must use either best engineering judgment or the procedures prescribed in Appendix IX of this section.

(C) If best engineering judgment is used to estimate APCS removal efficiency, the basis for the judgment. Use of best engineering judgment must be in conformance with provisions of paragraph (b)(2)(ii)(D) of this section.

(v) Determination of allowable emissions rates for HCl, Cl₂, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium, and the following information to support such determinations:

(A) For all facilities:

- (1) Physical stack height;
- (2) Good engineering practice stack height as defined by 40 CFR 51.100(ii);
- (3) Maximum flue gas flow rate;
- (4) Maximum flue gas temperature;
- (5) Attach a US Geological Service topographic map (or equivalent) showing the facility location and surrounding land within 5 km of the facility;
- (6) Identify terrain type: complex or noncomplex; and
- (7) Identify land use: urban or rural.

(B) For owners and operators using Tier III site specific dispersion modeling to determine allowable levels under § 266.106(d) or § 266.107(c), or adjusted Tier I feed rate screening limits under §§ 266.106(e) or 266.107(e):

- (1) Dispersion model and version used;
- (2) Source of meteorological data;
- (3) The dilution factor in micrograms per cubic meter per gram per second of emissions for the maximum annual average off-site (unless on-site is required) ground level concentration (MEI location); and
- (4) Indicate the MEI location on the map required under paragraph (b)(2)(v)(A)(5);

(vi) For facilities complying with the Tier II or III emissions rate controls for metals or HCl and Cl₂, a comparison of the estimated controlled emissions rates determined under paragraph (b)(2)(iv) with the allowable emission rates determined under paragraph (b)(2)(v);

(vii) For facilities complying with the Tier I (or adjusted Tier I) feed rate screening limits for metals or total chloride and chlorine, a comparison of actual feed rates of each metal and total chlorine and chloride determined under paragraph (b)(2)(iii) of this section to the Tier I allowable feed rates; and

(viii) For industrial furnaces that feed hazardous waste for any purpose other than solely as an ingredient (as defined by paragraph (a)(5)(ii) of this section) at any location other than the product discharge end of the device, documentation of compliance with the requirements of paragraphs (a)(5)(i) (A), (B), and (C) of this section.

(ix) For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under paragraph (c)(3)(ii) (A) of this section:

- (A) The applicable particulate matter standard in lb/hr; and
- (B) The precompliance limit on the concentration of each metal in collected PM.

(3) Limits on operating conditions. The owner and operator shall establish limits on the following parameters consistent with the determinations made under paragraph (b)(2) of this section and certify (under provisions of paragraph (b)(9) of this section) to the Director that the facility will operate within the limits during interim status when there is hazardous waste

in the unit until revised certification of precompliance under paragraph (b)(8) of this section or certification of compliance under paragraph (c) of this section:

- (i) Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e)) pumpable hazardous waste;

- (ii) Feed rate of each metal in the following feed streams:

- (A) Total feed streams, except that industrial furnaces that comply with the alternative metals implementation approach under paragraph (b)(4) of this section must specify limits on the concentration of each metal in collected particulate matter in lieu of feed rate limits for total feedstreams;

- (B) Total hazardous waste feed, unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106 (b) or (e); and

- (C) Total pumpable hazardous waste feed, unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under § 266.106 (b) or (e);

- (iii) Total feed rate of chlorine and chloride in total feed streams;

- (iv) Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited; and

- (v) Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or Adjusted Tier I feed rate screening limits for chlorine under § 266.107 (b)(1) or (e) and for all metals under § 266.106 (b) or (e), and the uncontrolled particulate emissions do not exceed the standard under § 266.105.

(4) Operating requirements for furnaces that recycle PM. Owners and operators of furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions controls under paragraph (c)(3)(ii)(A) of this section must comply with the special operating requirements provided in “Alternative Methodology for Implementing Metals Controls” in Appendix IX of this section.

(5) Measurement of feed rates and production rate-(i) General requirements. Limits on each of the parameters specified in paragraph (b)(3) of this section (except for limits on metals concentrations in collected particulate matter (PM) for industrial furnaces that recycle collected PM) shall be established and continuously monitored under either of the following methods:

- (A) Instantaneous limits. A limit for a parameter may be established and continuously monitored and recorded on an instantaneous basis (i.e., the value that occurs at any time) not to be exceeded at any time; or

- (B) Hourly rolling average limits. A limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

- (1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

- (2) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

- (ii) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (arsenic, beryllium, cadmium, and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph

(b)(5)(i)(B) or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 hours:

(A) The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis;

(B) The continuous monitor shall meet the following specifications:

(1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(2) The rolling average for the selected averaging period is defined as the arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of preceding clock hour.

(iii) Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of paragraphs (b)(5) (i) and (ii) of this section.

(6) Public notice requirements at precompliance. On or before August 21, 1991 the owner or operator must submit a notice with the following information for publication in a major local newspaper of general circulation and send a copy of the notice to the appropriate units of State and local government. The owner and operator must provide to the Director with the certification of precompliance evidence of submitting the notice for publication. The notice, which shall be entitled "Notice of Certification of Precompliance with Hazardous Waste Burning Requirements of 40 CFR 266.103(b)", must include:

(i) Name and address of the owner and operator of the facility as well as the location of the device burning hazardous waste;

(ii) Date that the certification of precompliance is submitted to the Director;

(iii) Brief description of the regulatory process required to comply with the interim status requirements of this section including required emissions testing to demonstrate conformance with emissions standards for organic compounds, particulate matter, metals, and HCl and Cl₂;

(iv) Types and quantities of hazardous waste burned including, but not limited to, source, whether solids or liquids, as well as an appropriate description of the waste;

(v) Type of device(s) in which the hazardous waste is burned including a physical description and maximum production rate of each device;

(vi) Types and quantities of other fuels and industrial furnace feedstocks fed to each unit;

(vii) Brief description of the basis for this certification of precompliance as specified in paragraph (b)(2) of this section;

(viii) Locations where the record for the facility can be viewed and copied by interested parties. These records and locations shall at a minimum include:

(A) The administrative record kept by the Agency office where the supporting

documentation was submitted or another location designated by the Director; and

(B) The BIF correspondence file kept at the facility site where the device is located. The correspondence file must include all correspondence between the facility and the Director, state and local regulatory officials, including copies of all certifications and notifications, such as the precompliance certification, precompliance public notice, notice of compliance testing, compliance test report, compliance certification, time extension requests and approvals or denials, enforcement notifications of violations, and copies of EPA and State site visit reports submitted to the owner or operator.

(ix) Notification of the establishment of a facility mailing list whereby interested parties shall notify the Agency that they wish to be placed on the mailing list to receive future information and notices about this facility; and

(x) Location (mailing address) of the Division's Hazardous Waste Division, where further information can be obtained on EPA and state rules of hazardous waste burning.

(7) Monitoring other operating parameters. When the monitoring systems for the operating parameters listed in paragraphs (c)(1)(v through xiii) of this section are installed and operating in conformance with vendor specifications or (for CO, HC, and oxygen) specifications provided by Appendix IX of this section, as appropriate, the parameters shall be continuously monitored and records shall be maintained in the operating record.

(8) Revised certification of precompliance. The owner or operator may revise at any time the information and operating conditions documented under paragraphs (b)(2) and (b)(3) of this section in the certification of precompliance by submitting a revised certification of precompliance under procedures provided by those paragraphs.

(i) The public notice requirements of paragraph (b)(6) of this section do not apply to recertifications.

(ii) The owner and operator must operate the facility within the limits established for the operating parameters under paragraph (b)(3) of this section until a revised certification is submitted under this paragraph or a certification of compliance is submitted under paragraph (c) of this section.

(9) Certification of precompliance statement. The owner or operator must include the following signed statement with the certification of precompliance submitted to the Director:

"I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with the requirements of § 266.103(b) are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating limits established in this certification pursuant to § 266.103(b) (3) and (4) are enforceable limits at which the facility can legally operate during interim status until: (1) A revised certification of precompliance is submitted, (2) a certification of compliance is submitted, or (3) an operating permit is issued."

(c) Certification of compliance. The owner or operator shall conduct emissions testing to document compliance with the emissions standards of §§ 266.104 (b) through (e), 266.105,

266.106, 266.107, and paragraph (a)(5)(i)(D) of this section, under the procedures prescribed by this paragraph, except under extensions of time provided by paragraph (c)(7). Based on the compliance test, the owner or operator shall submit to the Director on or before August 21, 1992 a complete and accurate “certification of compliance” (under paragraph (c)(4) of this section) with those emission standards establishing limits on the operating parameters specified in paragraph (c)(1).

(1) Limits on operating conditions. The owner or operator shall establish limits on the following parameters based on operations during the compliance test (under procedures prescribed in paragraph (c)(4)(iv) of this section) or as otherwise specified and include these limits with the certification of compliance. The boiler or industrial furnace must be operated in accordance with these operating limits and the applicable emissions standards of §§ 266.104(b) through (e), 266.105, 266.106, 266.107, and 266.103(a)(5)(i)(D) at all times when there is hazardous waste in the unit.

(i) Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e)), pumpable hazardous waste;

(ii) Feed rate of each metal in the following feedstreams:

(A) Total feedstreams, except that:

(1) Facilities that comply with Tier I or Adjusted Tier I metals feed rate screening limits may set their operating limits at the metals feed rate screening limits determined under § 266.106(b) or (e); and

(2) Industrial furnaces that must comply with the alternative metals implementation approach under paragraph (c)(3)(ii) of this section must specify limits on the concentration of each metal in the collected particulate matter in lieu of feed rate limits for total feedstreams;

(B) Total hazardous waste feed (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e)); and

(C) Total pumpable hazardous waste feed (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e));

(iii) Total feed rate of chlorine and chloride in total feed streams, except that facilities that comply with Tier I or Adjusted Tier I feed rate screening limits may set their operating limits at the total chlorine and chloride feed rate screening limits determined under § 266.107(b)(1) or (e);

(iv) Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited;

(v) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas. When complying with the CO controls of § 266.104(b), the CO limit is 100 ppmv, and when complying with the HC controls of § 266.104(c), the HC limit is 20 ppmv. When complying with the CO controls of § 266.104(c), the CO limit is established based on the compliance test;

(vi) Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or Adjusted Tier I feed rate screening limits for chlorine under § 266.107(b)(1) or (e) and for all metals under § 266.106(b) or (e), and the uncontrolled particulate emissions do not exceed the standard under § 266.105;

(vii) Maximum combustion chamber temperature where the temperature measurement

is as close to the combustion zone as possible and is upstream of any quench water injection (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e));

(viii) Maximum flue gas temperature entering a particulate matter control device (unless complying with Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under § 266.107(b) or (e));

(ix) For systems using wet scrubbers, including wet ionizing scrubbers (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under § 266.107(b)(1) or (e)):

(A) Minimum liquid to flue gas ratio;

(B) Minimum scrubber blowdown from the system or maximum suspended solids content of scrubber water; and

(C) Minimum pH level of the scrubber water;

(x) For systems using venturi scrubbers, the minimum differential gas pressure across the venturi (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under § 266.107(b)(1) or (e));

(xi) For systems using dry scrubbers (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under § 266.107(b)(1) or (e)):

(A) Minimum caustic feed rate; and

(B) Maximum flue gas flow rate;

(xii) For systems using wet ionizing scrubbers or electrostatic precipitators (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under § 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under § 266.107(b)(1) or (e)):

(A) Minimum electrical power in kilovolt amperes (kVA) to the precipitator plates; and

(B) Maximum flue gas flow rate;

(xiii) For systems using fabric filters (baghouses), the minimum pressure drop (unless complying with the Tier I or Adjusted Tier I metal feed rate screening limits under § 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under § 266.107(b)(1) or (e)).

(2) Prior notice of compliance testing. At least 30 days prior to the compliance testing required by paragraph (c)(3) of this section, the owner or operator shall notify the Director and submit the following information:

(i) General facility information including:

(A) EPA facility ID number;

(B) Facility name, contact person, telephone number, and address;

(C) Person responsible for conducting compliance test, including company name, address, and telephone number, and a statement of qualifications;

(D) Planned date of the compliance test;

(ii) Specific information on each device to be tested including:

- (A) Description of boiler or industrial furnace;
 - (B) A scaled plot plan showing the entire facility and location of the boiler or industrial furnace;
 - (C) A description of the air pollution control system;
 - (D) Identification of the continuous emission monitors that are installed, including:
 - (1) Carbon monoxide monitor;
 - (2) Oxygen monitor;
 - (3) Hydrocarbon monitor, specifying the minimum temperature of the system and, if the temperature is less than 150 °C, an explanation of why a heated system is not used (see paragraph (c)(5) of this section) and a brief description of the sample gas conditioning system;
 - (E) Indication of whether the stack is shared with another device that will be in operation during the compliance test;
 - (F) Other information useful to an understanding of the system design or operation.
- (iii) Information on the testing planned, including a complete copy of the test protocol and Quality Assurance/Quality Control (QA/QC) plan, and a summary description for each test providing the following information at a minimum:
- (A) Purpose of the test (e.g., demonstrate compliance with emissions of particulate matter); and
 - (B) Planned operating conditions, including levels for each pertinent parameter specified in paragraph (c)(1) of this section.
- (3) Compliance testing. - (i) General. Compliance testing must be conducted under conditions for which the owner or operator has submitted a certification of precompliance under paragraph (b) of this section and under conditions established in the notification of compliance testing required by paragraph (c)(2) of this section. The owner or operator may seek approval on a case-by-case basis to use compliance test data from one unit in lieu of testing a similar onsite unit. To support the request, the owner or operator must provide a comparison of the hazardous waste burned and other feedstreams, and the design, operation, and maintenance of both the tested unit and the similar unit. The Director shall provide a written approval to use compliance test data in lieu of testing a similar unit if he finds that the hazardous wastes, the devices, and the operating conditions are sufficiently similar, and the data from the other compliance test is adequate to meet the requirements of § 266.103(c).
- (ii) Special requirements for industrial furnaces that recycle collected PM. Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system must comply with one of the following procedures for testing to determine compliance with the metals standards of § 266.106(c) or (d):
- (A) The special testing requirements prescribed in “Alternative Method for Implementing Metals Controls” in Appendix IX of this section; or
 - (B) Stack emissions testing for a minimum of 6 hours each day while hazardous waste is burned during interim status. The testing must be conducted when burning normal hazardous waste for that day at normal feed rates for that day and when the air pollution control system is operated under normal conditions. During interim status, hazardous waste analysis for metals content must be sufficient for the owner or operator to determine if changes in metals content may affect the ability of the facility

to meet the metals emissions standards established under § 266.106(c) or (d). Under this option, operating limits (under paragraph (c)(1) of this section) must be established during compliance testing under paragraph (c)(3) of this section only on the following parameters;

- (1) Feed rate of total hazardous waste;
- (2) Total feed rate of chlorine and chloride in total feed streams;
- (3) Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited;
- (4) Carbon monoxide concentration, and where required, hydro-carbon concentration in stack gas;
- (5) Maximum production rate of the device in appropriate units when producing normal product; or

(C) Conduct compliance testing to determine compliance with the metals standards to establish limits on the operating parameters of paragraph (c)(1) of this section only after the kiln system has been conditioned to enable it to reach equilibrium with respect to metals fed into the system and metals emissions. During conditioning, hazardous waste and raw materials having the same metals content as will be fed during the compliance test must be fed at the feed rates that will be fed during the compliance test.

(iii) Conduct of compliance testing. (A) If compliance with all applicable emissions standards of §§ 266.104 through 266.107 is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards must be as close as possible to the original operating conditions.

(B) Prior to obtaining test data for purposes of demonstrating compliance with the applicable emissions standards of §§ 266.104 through 266.107 or establishing limits on operating parameters under this section, the facility must operate under compliance test conditions for a sufficient period to reach steady-state operations. Industrial furnaces that recycle collected particulate matter back into the furnace and that comply with paragraphs (c)(3)(ii)(A) or (B) of this section, however, need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals.

(C) Compliance test data on the level of an operating parameter for which a limit must be established in the certification of compliance must be obtained during emissions sampling for the pollutant(s) (i.e., metals, PM, HCl/Cl₂, organic compounds) for which the parameter must be established as specified by paragraph (c)(1) of this section.

(4) Certification of compliance. Within 90 days of completing compliance testing, the owner or operator must certify to the Director compliance with the emissions standards of §§ 266.104(b), (c), and (e), 266.105, 266.106, 266.107, and paragraph (a)(5)(i)(D) of this section. The certification of compliance must include the following information:

- (i) General facility and testing information including:
 - (A) EPA facility ID number;
 - (B) Facility name, contact person, telephone number, and address;
 - (C) Person responsible for conducting compliance testing, including company name, address, and telephone number, and a statement of qualifications;

(D) Date(s) of each compliance test;
(E) Description of boiler or industrial furnace tested;
(F) Person responsible for quality assurance/quality control (QA/QC), title, and telephone number, and statement that procedures prescribed in the QA/QC plan submitted under § 266.103(c)(2)(iii) have been followed, or a description of any changes and an explanation of why changes were necessary.

(G) Description of any changes in the unit configuration prior to or during testing that would alter any of the information submitted in the prior notice of compliance testing under paragraph (c)(2) of this section, and an explanation of why the changes were necessary;

(H) Description of any changes in the planned test conditions prior to or during the testing that alter any of the information submitted in the prior notice of compliance testing under paragraph (c)(2) of this section, and an explanation of why the changes were necessary; and

(I) The complete report on results of emissions testing.

(ii) Specific information on each test including:

(A) Purpose(s) of test (e.g., demonstrate conformance with the emissions limits for particulate matter, metals, HCl, Cl₂, and CO)

(B) Summary of test results for each run and for each test including the following information:

(1) Date of run;

(2) Duration of run;

(3) Time-weighted average and highest hourly rolling average CO level for each run and for the test;

(4) Highest hourly rolling average HC level, if HC monitoring is required for each run and for the test;

(5) If dioxin and furan testing is required under § 266.104(e), time-weighted average emissions for each run and for the test of chlorinated dioxin and furan emissions, and the predicted maximum annual average ground level concentration of the toxicity equivalency factor;

(6) Time-weighted average particulate matter emissions for each run and for the test;

(7) Time-weighted average HCl and Cl₂ emissions for each run and for the test;

(8) Time-weighted average emissions for the metals subject to rule under § 266.106 for each run and for the test; and

(9) QA/QC results.

(iii) Comparison of the actual emissions during each test with the emissions limits prescribed by §§ 266.104 (b), (c), and (e), 266.105, 266.106, and 266.107 and established for the facility in the certification of precompliance under paragraph (b) of this section.

(iv) Determination of operating limits based on all valid runs of the compliance test for each applicable parameter listed in paragraph (c)(1) of this section using either of the following procedures:

(A) Instantaneous limits. A parameter may be measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the operating limit

specified as the time-weighted average during all runs of the compliance test; or

(B) Hourly rolling average basis. (1) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(ii) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

(2) The operating limit for the parameter shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average value for each run.

(C) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (c)(4)(iv)(B) of this section or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 hours:

(1) The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis;

(2) The continuous monitor shall meet the following specifications:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(ii) The rolling average for the selected averaging period is defined as arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of preceding clock hour; and

(3) The operating limit for the feed rate of each metal shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average feed rate for each run.

(D) Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of paragraphs (c)(4)(iv) (A) through (C) of this section.

(v) Certification of compliance statement. The following statement shall accompany the certification of compliance:

“I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with the requirements of § 266.103(c) are available at the facility and can be obtained from the facility

contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating conditions established in this certification pursuant to § 266.103(c)(4)(iv) are enforceable limits at which the facility can legally operate during interim status until a revised certification of compliance is submitted.”

(5) Special requirements for HC monitoring systems. When an owner or operator is required to comply with the hydrocarbon (HC) controls provided by Sec. 266.104(c) or paragraph (a)(5)(i)(D) of this section, a conditioned gas monitoring system may be used in conformance with specifications provided in Appendix IX of this section provided that the owner or operator submits a certification of compliance without using extensions of time provided by paragraph (c)(7) of this section.

(6) Special operating requirements for industrial furnaces that recycle collected PM. Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system must:

(i) When complying with the requirements of paragraph (c)(3)(ii)(A) of this section, comply with the operating requirements prescribed in “Alternative Method to Implement the Metals Controls” in Appendix IX of this section; and

(ii) When complying with the requirements of paragraph (c)(3)(ii)(B) of this section, comply with the operating requirements prescribed by that paragraph.

(7) Extensions of time. (i) If the owner or operator does not submit a complete certification of compliance for all of the applicable emissions standards of §§ 266.104, 266.105, 266.106, and 266.107 by August 21, 1992, he/she must either:

(A) Stop burning hazardous waste and begin closure activities under paragraph (l) of this section for the hazardous waste portion of the facility; or

(B) Limit hazardous waste burning only for purposes of compliance testing (and pretesting to prepare for compliance testing) a total period of 720 hours for the period of time beginning August 21, 1992, submit a notification to the Director by August 21, 1992 stating that the facility is operating under restricted interim status and intends to resume burning hazardous waste, and submit a complete certification of compliance by August 23, 1993; or

(C) Obtain a case-by-case extension of time under paragraph (c)(7)(ii) of this section.

(ii) The owner or operator may request a case-by-case extension of time to extend any time limit provided by paragraph (c) of this section if compliance with the time limit is not practicable for reasons beyond the control of the owner or operator.

(A) In granting an extension, the Director may apply conditions as the facts warrant to ensure timely compliance with the requirements of this section and that the facility operates in a manner that does not pose a hazard to human health and the environment;

(B) When an owner or operator requests an extension of time to enable the facility to comply with the alternative hydrocarbon provisions of § 266.104(f) and obtain a

RCRA operating permit because the facility cannot meet the HC limit of § 266.104(c) of this rule:

(1) The Director shall, in considering whether to grant the extension:

(i) Determine whether the owner and operator have submitted in a timely manner a complete part B permit application that includes information required under § 270.22(b) of this rule; and

(ii) Consider whether the owner and operator have made a good faith effort to certify compliance with all other emission controls, including the controls on dioxins and furans of § 266.104(e) and the controls on PM, metals, and HCl/Cl₂.

(2) If an extension is granted, the Director shall, as a condition of the extension, require the facility to operate under flue gas concentration limits on CO and HC that, based on available information, including information in the part B permit application, are baseline CO and HC levels as defined by § 266.104(f)(1).

(8) Revised certification of compliance. The owner or operator may submit at any time a revised certification of compliance (recertification of compliance) under the following procedures:

(i) Prior to submittal of a revised certification of compliance, hazardous waste may not be burned for more than a total of 720 hours under operating conditions that exceed those established under a current certification of compliance, and such burning may be conducted only for purposes of determining whether the facility can operate under revised conditions and continue to meet the applicable emissions standards of §§ 266.104, 266.105, 266.106, and 266.107;

(ii) At least 30 days prior to first burning hazardous waste under operating conditions that exceed those established under a current certification of compliance, the owner or operator shall notify the Director and submit the following information:

(A) EPA facility ID number, and facility name, contact person, telephone number, and address;

(B) Operating conditions that the owner or operator is seeking to revise and description of the changes in facility design or operation that prompted the need to seek to revise the operating conditions;

(C) A determination that when operating under the revised operating conditions, the applicable emissions standards of §§ 266.104, 266.105, 266.106, and 266.107 are not likely to be exceeded. To document this determination, the owner or operator shall submit the applicable information required under paragraph (b)(2) of this section; and

(D) Complete emissions testing protocol for any pretesting and for a new compliance test to determine compliance with the applicable emissions standards of §§ 266.104, 266.105, 266.106, and 266.107 when operating under revised operating conditions. The protocol shall include a schedule of pre-testing and compliance testing. If the owner and operator revises the scheduled date for the compliance test, he/she shall notify the Director in writing at least 30 days prior to the revised date of the compliance test;

(iii) Conduct a compliance test under the revised operating conditions and the protocol submitted to the Director to determine compliance with the applicable emissions standards of §§ 266.104, 266.105, 266.106, and 266.107; and

(iv) Submit a revised certification of compliance under paragraph (c)(4) of this section.

(d) Periodic Recertifications. The owner or operator must conduct compliance testing and submit to the Director a recertification of compliance under provisions of paragraph (c) of this section within five (5) years from submitting the previous certification or recertification. If the owner or operator seeks to recertify compliance under new operating conditions, he/she must comply with the requirements of paragraph (c)(8) of this section.

(e) Noncompliance with certification schedule. If the owner or operator does not comply with the interim status compliance schedule provided by paragraphs (b), (c), and (d) of this section, hazardous waste burning must terminate on the date that the deadline is missed, closure activities must begin under paragraph (l) of this section, and hazardous waste burning may not resume except under an operating permit issued under § 270.66 of this rule. For purposes of compliance with the closure provisions of paragraph (l) of this section and §§ 265.112(d)(2) and 265.113 of this rule the boiler or industrial furnace has received “the known final volume of hazardous waste” on the date that the deadline is missed.

(f) Start-up and shut-down. Hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride/chlorine) must not be fed into the device during start-up and shut-down of the boiler or industrial furnace, unless the device is operating within the conditions of operation specified in the certification of compliance.

(g) Automatic waste feed cutoff. During the compliance test required by paragraph (c)(3) of this section, and upon certification of compliance under paragraph (c) of this section, a boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when the applicable operating conditions specified in paragraphs (c)(1) (i) and (v through xiii) of this section deviate from those established in the certification of compliance. In addition:

(1) To minimize emissions of organic compounds, the minimum combustion chamber temperature (or the indicator of combustion chamber temperature) that occurred during the compliance test must be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber, with the minimum temperature during the compliance test defined as either:

(i) If compliance with the combustion chamber temperature limit is based on an hourly rolling average, the minimum temperature during the compliance test is considered to be the average over all runs of the lowest hourly rolling average for each run; or

(ii) If compliance with the combustion chamber temperature limit is based on an instantaneous temperature measurement, the minimum temperature during the compliance test is considered to be the time-weighted average temperature during all runs of the test; and

(2) Operating parameters limited by the certification of compliance must continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the limits established in the certification of compliance.

(h) Fugitive emissions. Fugitive emissions must be controlled by:

(1) Keeping the combustion zone totally sealed against fugitive emissions; or

(2) Maintaining the combustion zone pressure lower than atmospheric pressure; or

(3) An alternate means of control that the owner or operator can demonstrate provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure. Support for such demonstration shall be included in the operating record.

(i) Changes. A boiler or industrial furnace must cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits specified in the certification of compliance.

(j) Monitoring and Inspections. (1) The owner or operator must monitor and record the following, at a minimum, while burning hazardous waste:

(i) Feed rates and composition of hazardous waste, other fuels, and industrial furnace feed stocks, and feed rates of ash, metals, and total chloride and chlorine as necessary to ensure conformance with the certification of precompliance or certification of compliance;

(ii) Carbon monoxide (CO), oxygen, and if applicable, hydrocarbons (HC), on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with the operating limits specified in the certification of compliance. CO, HC, and oxygen monitors must be installed, operated, and maintained in accordance with methods specified in Appendix IX of this part.

(iii) Upon the request of the Director, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feed stocks as appropriate) and the stack gas emissions must be conducted to verify that the operating conditions established in the certification of precompliance or certification of compliance achieve the applicable standards of §§ 266.104, 266.105, 266.106, and 266.107.

(2) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) must be subjected to thorough visual inspection when they contain hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

(3) The automatic hazardous waste feed cutoff system and associated alarms must be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the owner or operator can demonstrate that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. Support for such demonstration shall be included in the operating record. At a minimum, operational testing must be conducted at least once every 30 days.

(4) These monitoring and inspection data must be recorded and the records must be placed in the operating log.

(k) Recordkeeping. The owner or operator must keep in the operating record of the facility all information and data required by this section for five (5) years.

(l) Closure. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace and must comply with §§ 265.111-265.115 of this rule.

§ 266.104 Standards to control organic emissions

(a) DRE standard-(1) General. Except as provided in paragraph (a)(3) of this section, a boiler or

industrial furnace burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for all organic hazardous constituents in the waste feed. To demonstrate conformance with this requirement, 99.99% DRE must be demonstrated during a trial burn for each principal organic hazardous constituent (POHC) designated (under paragraph (a)(2) of this section) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \left[1 - \frac{W_{out}}{W_{in}} \right] \times 100$$

where:

W_{in} = Mass feed rate of one principal organic hazardous constituent (POHC) in the hazardous waste fired to the boiler or industrial furnace; and

W_{out} = Mass emission rate of the same POHC present in stack gas prior to release to the atmosphere.

(2) Designation of POHCs. Principal organic hazardous constituents (POHCs) are those compounds for which compliance with the DRE requirements of this section shall be demonstrated in a trial burn in conformance with procedures prescribed in § 270.66 of this rule. One or more POHCs shall be designated by the Director for each waste feed to be burned. POHCs shall be designated based on the degree of difficulty of destruction of the organic constituents in the waste and on their concentrations or mass in the waste feed considering the results of waste analyses submitted with part B of the permit application. POHCs are most likely to be selected from among those compounds listed in Section 261, Appendix VIII of this rule that are also present in the normal waste feed. However, if the applicant demonstrates to the Director's satisfaction that a compound not listed in Appendix VIII or not present in the normal waste feed is a suitable indicator of compliance with the DRE requirements of this section, that compound may be designated as a POHC. Such POHCs need not be toxic or organic compounds.

(3) Dioxin-listed waste. A boiler or industrial furnace burning hazardous waste containing (or derived from) EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each POHC designated (under paragraph (a)(2) of this section) in its permit. This performance must be demonstrated on POHCs that are more difficult to burn than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in paragraph (a)(1) of this section. In addition, the owner or operator of the boiler or industrial furnace must notify the Director of intent to burn EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(4) Automatic waiver of DRE trial burn. Owners and operators of boilers operated under the special operating requirements provided by § 266.110 are considered to be in compliance with the DRE standard of paragraph (a)(1) of this section and are exempt from the DRE trial burn.

(5) Low risk waste. Owners and operators of boilers or industrial furnaces that burn hazardous waste in compliance with the requirements of § 266.109(a) are considered to be in compliance with the DRE standard of paragraph (a)(1) of this section and are exempt from the DRE trial burn.

(b) Carbon monoxide standard. (1) Except as provided in paragraph (c) of this section, the stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste cannot exceed 100 ppmv on an hourly rolling average basis (i.e., over any 60 minute period), continuously corrected to 7 percent oxygen, dry gas basis.

(2) CO and oxygen shall be continuously monitored in conformance with “Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste” in Appendix IX of this part.

(3) Compliance with the 100 ppmv CO limit must be demonstrated during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). To demonstrate compliance, the highest hourly rolling average CO level during any valid run of the trial burn or compliance test must not exceed 100 ppmv.

(c) Alternative carbon monoxide standard. (1) The stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste may exceed the 100 ppmv limit provided that stack gas concentrations of hydrocarbons (HC) do not exceed 20 ppmv, except as provided by paragraph (f) of this section for certain industrial furnaces.

(2) HC limits must be established under this section on an hourly rolling average basis (i.e., over any 60 minute period), reported as propane, and continuously corrected to 7 percent oxygen, dry gas basis.

(3) HC shall be continuously monitored in conformance with “Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste” in Appendix IX of this section. CO and oxygen shall be continuously monitored in conformance with paragraph (b)(2) of this section.

(4) The alternative CO standard is established based on CO data during the trial burn (for a new facility) and the compliance test (for an interim status facility). The alternative CO standard is the average over all valid runs of the highest hourly average CO level for each run. The CO limit is implemented on an hourly rolling average basis, and continuously corrected to 7 percent oxygen, dry gas basis.

(d) Special requirements for furnaces. Owners and operators of industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see § 266.103(a)(5)(ii)) at any location other than the end where products are normally discharged and where fuels are normally fired must comply with the hydrocarbon limits provided by paragraphs (c) or (f) of this section irrespective of whether stack gas CO concentrations meet the 100 ppmv limit of paragraph (b) of this section.

(e) Controls for dioxins and furans. Owners and operators of boilers and industrial furnaces that are equipped with a dry particulate matter control device that operates within the temperature range of 450-750 °F, and industrial furnaces operating under an alternative hydrocarbon limit established under paragraph (f) of this section must conduct a site-specific risk assessment as follows to demonstrate that emissions of chlorinated dibenzo-p-dioxins and dibenzofurans do not result in an increased lifetime cancer risk to the hypothetical maximum exposed individual (MEI) exceeding 1 in 100,000:

(1) During the trial burn (for new facilities or an interim status facility applying for a permit) or compliance test (for interim status facilities), determine emission rates of the tetra-octa congeners of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs/CDFs) using Method 0023A, Sampling Method for Polychlorinated Dibenzo-p-Dioxins and

Polychlorinated Dibenzofurans Emissions from Stationary Sources, EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(2) Estimate the 2,3,7,8-TCDD toxicity equivalence of the tetra-octa CDDs/CDFs congeners using “Procedures for Estimating the Toxicity Equivalence of Chlorinated Dibenzo-p-Dioxin and Dibenzofuran Congeners” in Appendix IX of this section. Multiply the emission rates of CDD/CDF congeners with a toxicity equivalence greater than zero (see the procedure) by the calculated toxicity equivalence factor to estimate the equivalent emission rate of 2,3,7,8-TCDD;

(3) Conduct dispersion modeling using methods recommended in Appendix W of 40 CFR part 51 (“Guideline on Air Quality Models (Revised)” (1986) and its supplements), the “Hazardous Waste Combustion Air Quality Screening Procedure”, provided in Appendix IX of this Section, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised (incorporated by reference in § 260.11) to predict the maximum annual average off-site ground level concentration of 2,3,7,8-TCDD equivalents determined under paragraph (e)(2) of this section. The maximum annual average concentration must be used when a person resides on-site; and

(4) The ratio of the predicted maximum annual average ground level concentration of 2,3,7,8-TCDD equivalents to the risk-specific dose for 2,3,7,8-TCDD provided in Appendix V of this part (2.2×10^{-7}) shall not exceed 1.0.

(f) Monitoring CO and HC in the by-pass duct of a cement kiln. Cement kilns may comply with the carbon monoxide and hydrocarbon limits provided by paragraphs (b), (c), and (d) of this section by monitoring in the by-pass duct provided that:

(1) Hazardous waste is fired only into the kiln and not at any location downstream from the kiln exit relative to the direction of gas flow; and

(2) The by-pass duct diverts a minimum of 10% of kiln off-gas into the duct.

(g) Use of emissions test data to demonstrate compliance and establish operating limits. Compliance with the requirements of this section must be demonstrated simultaneously by emissions testing or during separate runs under identical operating conditions. Further, data to demonstrate compliance with the CO and HC limits of this section or to establish alternative CO or HC limits under this section must be obtained during the time that DRE testing, and where applicable, CDD/CDF testing under paragraph (e) of this section and comprehensive organic emissions testing under paragraph (f) is conducted.

(h) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be “information” justifying modification or revocation and re-issuance of a permit under § 270.41 of this rule.

§ 266.105 Standards to control particulate matter

(a) A boiler or industrial furnace burning hazardous waste may not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) after correction to a stack gas concentration of 7% oxygen, using procedures prescribed in 40 CFR part 60, Appendix A, methods 1 through 5, and Appendix IX of this part.

(b) An owner or operator meeting the requirements of § 266.109(b) for the low risk waste

exemption is exempt from the particulate matter standard.

(c) Oxygen correction. (1) Measured pollutant levels must be corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times 14/(E - Y)$$

Where:

P_c is the corrected concentration of the pollutant in the stack gas, P_m is the measured concentration of the pollutant in the stack gas, E is the oxygen concentration on a dry basis in the combustion air fed to the device, and Y is the measured oxygen concentration on a dry basis in the stack.

(2) For devices that feed normal combustion air, E will equal 21 percent. For devices that feed oxygen-enriched air for combustion (that is, air with an oxygen concentration exceeding 21 percent), the value of E will be the concentration of oxygen in the enriched air.

(3) Compliance with all emission standards provided by this subpart must be based on correcting to 7 percent oxygen using this procedure.

(d) For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be “information” justifying modification or revocation and re-issuance of a permit under § 270.41 of this rule.

§ 266.106 Standards to control metals emissions

(a) General. The owner or operator must comply with the metals standards provided by paragraphs (b), (c), (d), (e), or (f) of this section for each metal listed in paragraph (b) of this section that is present in the hazardous waste at detectable levels by using appropriate analytical procedures.

(b) Tier I feed rate screening limits. Feed rate screening limits for metals are specified in Appendix I of this part as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in paragraph (b)(7) of this section.

(1) Noncarcinogenic metals. The feed rates of antimony, barium, lead, mercury, thallium, and silver in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the screening limits specified in Appendix I of this section.

(i) The feed rate screening limits for antimony, barium, mercury, thallium, and silver are based on either:

(A) An hourly rolling average as defined in § 266.102(e)(6)(i)(B); or

(B) An instantaneous limit not to be exceeded at any time.

(ii) The feed rate screening limit for lead is based on one of the following:

(A) An hourly rolling average as defined in § 266.102(e)(6)(i)(B);

(B) An averaging period of 2 to 24 hours as defined in § 266.102(e)(6)(ii) with an instantaneous feed rate limit not to exceed 10 times the feed rate that would be allowed on an hourly rolling average basis; or

(C) An instantaneous limit not to be exceeded at any time.

(2) Carcinogenic metals. (i) The feed rates of arsenic, cadmium, beryllium, and chromium

in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed values derived from the screening limits specified in Appendix I of this section. The feed rate of each of these metals is limited to a level such that the sum of the ratios of the actual feed rate to the feed rate screening limit specified in Appendix I shall not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^n \frac{AFR_{(i)}}{FRSL_{(i)}} \leq 1.0$$

where:

- n = number of carcinogenic metals
 AFR = actual feed rate to the device for metal “” $FRSL$ = feed rate screening limit provided by Appendix I of this part for metal “”.
- (ii) The feed rate screening limits for the carcinogenic metals are based on either:
 (A) An hourly rolling average; or
 (B) An averaging period of 2 to 24 hours as defined in § 266.102(e)(6)(ii) with an instantaneous feed rate limit not to exceed 10 times the feed rate that would be allowed on an hourly rolling average basis.
- (3) TESH. (i) The terrain-adjusted effective stack height is determined according to the following equation:

$$TESH = H_a + H_1 - Tr$$

where:

- H_a = Actual physical stack height
 H_1 = Plume rise as determined from Appendix VI of this section as a function of stack flow rate and stack gas exhaust temperature.
 Tr = Terrain rise within five kilometers of the stack.
- (ii) The stack height (H_a) may not exceed good engineering practice as specified in 40 CFR 51.100(ii).
- (iii) If the TESH for a particular facility is not listed in the table in the appendices, the nearest lower TESH listed in the table shall be used. If the TESH is four meters or less, a value of four meters shall be used.
- (4) Terrain type. The screening limits are a function of whether the facility is located in noncomplex or complex terrain. A device located where any part of the surrounding terrain within 5 kilometers of the stack equals or exceeds the elevation of the physical stack height (H_a) is considered to be in complex terrain and the screening limits for complex terrain apply. Terrain measurements are to be made from U.S. Geological Survey 7.5-minute topographic maps of the area surrounding the facility.
- (5) Land use. The screening limits are a function of whether the facility is located in an area where the land use is urban or rural. To determine whether land use in the vicinity of the facility is urban or rural, procedures provided in appendices IX or X of this section shall be used.
- (6) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to

controls of metals emissions under a RCRA operating permit or interim status controls must comply with the screening limits for all such units assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics. The worst-case stack is determined from the following equation as applied to each stack:

$$K = HVT$$

Where:

- K = a parameter accounting for relative influence of stack height and plume rise;
- H = physical stack height (meters);
- V = stack gas flow rate (m³/second); and
- T = exhaust temperature (°K).

The stack with the lowest value of *K* is the worst-case stack.

(7) Criteria for facilities not eligible for screening limits. If any criteria below are met, the Tier I and Tier II screening limits do not apply. Owners and operators of such facilities must comply with either the Tier III standards provided by paragraph (d) of this section or with the adjusted Tier I feed rate screening limits provided by paragraph (e) of this section.

- (i) The device is located in a narrow valley less than one kilometer wide;
- (ii) The device has a stack taller than 20 meters and is located such that the terrain rises to the physical height within one kilometer of the facility;
- (iii) The device has a stack taller than 20 meters and is located within five kilometers of a shoreline of a large body of water such as an ocean or large lake;
- (iv) The physical stack height of any stack is less than 2.5 times the height of any building within five building heights or five projected building widths of the stack and the distance from the stack to the closest boundary is within five building heights or five projected building widths of the associated building; or
- (v) The Director determines that standards based on site-specific dispersion modeling are required.

(8) Implementation. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate screening limits are not exceeded.

(c) Tier II emission rate screening limits. Emission rate screening limits are specified in Appendix I as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in paragraph (b)(7) of this section.

(1) Noncarcinogenic metals. The emission rates of antimony, barium, lead, mercury, thallium, and silver shall not exceed the screening limits specified in Appendix I of this section.

(2) Carcinogenic metals. The emission rates of arsenic, cadmium, beryllium, and chromium shall not exceed values derived from the screening limits specified in Appendix I of this section. The emission rate of each of these metals is limited to a level such that the sum of the ratios of the actual emission rate to the emission rate screening limit specified in Appendix I shall not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^n \frac{AFR_{(i)}}{FRSL_{(i)}} \leq 1.0$$

where:

n = number of carcinogenic metals

AER = actual emission rate for metal “i”

ERSL = emission rate screening limit provided by Appendix I of this section for metal “i”.

(3) Implementation. The emission rate limits must be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by paragraphs (b)(1)(i) and (ii) and (b)(2)(ii) of this section. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate limits for the feedstreams specified under §§ 266.102 or 266.103 are not exceeded.

(4) Definitions and limitations. The definitions and limitations provided by paragraph (b) of this section for the following terms also apply to the Tier II emission rate screening limits provided by paragraph (c) of this section: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and criteria for facilities not eligible to use the screening limits.

(5) Multiple stacks. (i) Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a RCRA operating permit or interim status controls must comply with the emissions screening limits for any such stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

(ii) The worst-case stack is determined by procedures provided in paragraph (b)(6) of this section.

(iii) For each metal, the total emissions of the metal from those stacks shall not exceed the screening limit for the worst-case stack.

(d) Tier III and Adjusted Tier I site-specific risk assessment. The requirements of this paragraph apply to facilities complying with either the Tier III or Adjusted Tier I controls, except where specified otherwise.

(1) General. Conformance with the Tier III metals controls must be demonstrated by emissions testing to determine the emission rate for each metal. In addition, conformance with either the Tier III or Adjusted Tier I metals controls must be demonstrated by air dispersion modeling to predict the maximum annual average off-site ground level concentration for each metal, and a demonstration that acceptable ambient levels are not exceeded.

(2) Acceptable ambient levels. Appendices IV and V of this part list the acceptable ambient levels for purposes of this rule. Reference air concentrations (RACs) are listed for the noncarcinogenic metals and 10^{-5} risk-specific doses (RSDs) are listed for the carcinogenic metals. The RSD for a metal is the acceptable ambient level for that metal provided that only one of the four carcinogenic metals is emitted. If more than one carcinogenic metal is emitted, the acceptable ambient level for the carcinogenic metals is a fraction of the RSD as described in paragraph (d)(3) of this section.

(3) Carcinogenic metals. For the carcinogenic metals, arsenic, cadmium, beryllium, and chromium, the sum of the ratios of the predicted maximum annual average off-site ground

level concentrations (except that on-site concentrations must be considered if a person resides on site) to the risk-specific dose (RSD) for all carcinogenic metals emitted shall not exceed 1.0 as determined by the following equation:

$$\sum_{i=1}^n \frac{\text{Predicted Ambient Concentration}_{(i)}}{\text{Risk-Specific Dose}_{(i)}} \leq 1.0$$

where: n = number of carcinogenic metals

(4) Noncarcinogenic metals. For the noncarcinogenic metals, the predicted maximum annual average off-site ground level concentration for each metal shall not exceed the reference air concentration (RAC).

(5) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a RCRA operating permit or interim status controls must conduct emissions testing (except that facilities complying with Adjusted Tier I controls need not conduct emissions testing) and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels.

(6) Implementation. Under Tier III, the metals controls must be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by paragraphs (b)(1) (i) and (ii) and (b)(2)(ii) of this section. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate limits for the feedstreams specified under §§ 266.102 or 266.103 are not exceeded.

(e) Adjusted Tier I feed rate screening limits. The owner or operator may adjust the feed rate screening limits provided by Appendix I of this section to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit for a metal is determined by back-calculating from the acceptable ambient level provided by appendices IV and V of this section using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit. The feed rate screening limits for carcinogenic metals are implemented as prescribed in paragraph (b)(2) of this section.

(f) Alternative implementation approaches. (1) The Director may approve on a case-by-case basis approaches to implement the Tier II or Tier III metals emission limits provided by paragraphs (c) or (d) of this section alternative to monitoring the feed rate of metals in each feedstream.

(2) The emission limits provided by paragraph (d) of this section must be determined as follows:

(i) For each noncarcinogenic metal, by back-calculating from the RAC provided in Appendix IV of this section to determine the allowable emission rate for each metal using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with paragraph (h) of this section; and

(ii) For each carcinogenic metal by:

(A) Back-calculating from the RSD provided in Appendix V of this part to determine the allowable emission rate for each metal if that metal were the only

carcinogenic metal emitted using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with paragraph (h) of this section; and

(B) If more than one carcinogenic metal is emitted, selecting an emission limit for each carcinogenic metal not to exceed the emission rate determined by paragraph (f)(2)(ii)(A) of this section such that the sum for all carcinogenic metals of the ratios of the selected emission limit to the emission rate determined by that paragraph does not exceed 1.0.

(g) Emission testing — (1) General. Emission testing for metals shall be conducted using Method 0060, Determinations of Metals in Stack Emissions, EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(2) Hexavalent chromium. Emissions of chromium are assumed to be hexavalent chromium unless the owner or operator conducts emissions testing to determine hexavalent chromium emissions using procedures prescribed in Method 0061, Determination of Hexavalent Chromium Emissions from Stationary Sources, EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(h) Dispersion Modeling. Dispersion modeling required under this section shall be conducted according to methods recommended in Appendix W of 40 CFR Part 51 (“Guideline on Air Quality Models (Revised)” (1986) and its supplements), the “Hazardous Waste Combustion Air Quality Screening Procedure”, provided in Appendix IX of this Section, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised (incorporated by reference in § 260.11) to predict the maximum annual average off-site ground level concentration. However, on-site concentrations must be considered when a person resides on-site.

(i) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be “information” justifying modification or revocation and re-issuance of a permit under § 270.41 of this rule.

§ 266.107 Standards to control hydrogen chloride (HCl) and chlorine gas (Cl₂) emissions

(a) General. The owner or operator must comply with the hydrogen chloride (HCl) and chlorine (Cl₂) controls provided by paragraph (b), (c), or (e) of this section.

(b) Screening limits-(1) Tier I feed rate screening limits. Feed rate screening limits are specified for total chlorine in Appendix II of this section as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The feed rate of total chlorine and chloride, both organic and inorganic, in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the levels specified.

(2) Tier II emission rate screening limits. Emission rate screening limits for HCl and Cl₂ are specified in Appendix III of this section as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The stack emission rates of HCl and Cl₂ shall not exceed the levels specified.

(3) Definitions and limitations. The definitions and limitations provided by § 266.106(b) for the following terms also apply to the screening limits provided by this paragraph: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use,

and criteria for facilities not eligible to use the screening limits.

(4) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on HCl or Cl₂ emissions under a RCRA operating permit or interim status controls must comply with the Tier I and Tier II screening limits for those stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

(i) The worst-case stack is determined by procedures provided in § 266.106(b)(6).

(ii) Under Tier I, the total feed rate of chlorine and chloride to all subject devices shall not exceed the screening limit for the worst-case stack.

(iii) Under Tier II, the total emissions of HCl and Cl₂ from all subject stacks shall not exceed the screening limit for the worst-case stack.

(c) Tier III site-specific risk assessments-(1) General. Conformance with the Tier III controls must be demonstrated by emissions testing to determine the emission rate for HCl and Cl₂, air dispersion modeling to predict the maximum annual average off-site ground level concentration for each compound, and a demonstration that acceptable ambient levels are not exceeded.

(2) Acceptable ambient levels. Appendix IV of this section lists the reference air concentrations (RACs) for HCl (7 micrograms per cubic meter) and Cl₂ (0.4 micrograms per cubic meter).

(3) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on HCl or Cl₂ emissions under a RCRA operating permit or interim status controls must conduct emissions testing and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels for HCl and Cl₂.

(d) Averaging periods. The HCl and Cl₂ controls are implemented by limiting the feed rate of total chlorine and chloride in all feedstreams, including hazardous waste, fuels, and industrial furnace feed stocks. Under Tier I, the feed rate of total chloride and chlorine is limited to the Tier I Screening Limits. Under Tier II and Tier III, the feed rate of total chloride and chlorine is limited to the feed rates during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate limits are based on either:

(1) An hourly rolling average as defined in § 266.102(e)(6); or

(2) An instantaneous basis not to be exceeded at any time.

(e) Adjusted Tier I feed rate screening limits. The owner or operator may adjust the feed rate screening limit provided by Appendix II of this Section to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit is determined by back-calculating from the acceptable ambient level for Cl₂ provided by Appendix IV of this section using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit.

(f) Emissions testing. Emissions testing for HCl and Cl₂ shall be conducted using the procedures described in Methods 0050 or 0051, EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(g) Dispersion modeling. Dispersion modeling shall be conducted according to the provisions of

§ 266.106(h).

(h) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be “information” justifying modification or revocation and re-issuance of a permit under § 270.41 of this rule.

§ 266.108 Small quantity on-site burner exemption

(a) Exempt quantities. Owners and operators of facilities that burn hazardous waste in an on-site boiler or industrial furnace are exempt from the requirements of this subsection provided that:

(1) The quantity of hazardous waste burned in a device for a calendar month does not exceed the limits provided in the following table based on the terrain-adjusted effective stack height as defined in § 266.106(b)(3):

Exempt Quantities for Small Quantity Burner Exemption

| Terrain-adjusted effective stack height of device (meters) | Allowable hazardous waste burning rate (gallons/month) | Terrain-adjusted effective stack height of device (meters) | Allowable hazardous waste burning rate (gallons/month) |
|---|---|---|---|
| 0 to 3.9 | 0 | 40.0 to 44.9 | 210 |
| 4.0 to 5.9 | 13 | 45.0 to 49.9 | 260 |
| 6.0 to 7.9 | 18 | 50.0 to 54.9 | 330 |
| 8.0 to 9.9 | 27 | 55.0 to 59.9 | 400 |
| 10.0 to 11.9 | 40 | 60.0 to 64.9 | 490 |
| 12.0 to 13.9 | 48 | 65.0 to 69.9 | 610 |
| 14.0 to 15.9 | 59 | 70.0 to 74.9 | 680 |
| 16.0 to 17.9 | 69 | 75.0 to 79.9 | 760 |
| 18.0 to 19.9 | 76 | 80.0 to 84.9 | 850 |
| 20.0 to 21.9 | 84 | 85.0 to 89.9 | 960 |
| 22.0 to 23.9 | 93 | 90.0 to 94.9 | 1,100 |
| 24.0 to 25.9 | 100 | 95.0 to 99.9 | 1,200 |
| 26.0 to 27.9 | 110 | 100.0 to 104.9 | 1,300 |
| 28.0 to 29.9 | 130 | 105.0 to 109.9 | 1,500 |
| 30.0 to 34.9 | 140 | 110.0 to 114.9 | 1,700 |
| 35.0 to 39.9 | 170 | 115.0 or greater | 1,900 |

(2) The maximum hazardous waste firing rate does not exceed at any time 1 percent of the total fuel requirements for the device (hazardous waste plus other fuel) on a total heat input or mass input basis, whichever results in the lower mass feed rate of hazardous waste.

(3) The hazardous waste has a minimum heating value of 5,000 Btu/lb, as generated; and

(4) The hazardous waste fuel does not contain (and is not derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(b) Mixing with nonhazardous fuels. If hazardous waste fuel is mixed with a nonhazardous fuel, the quantity of hazardous waste before such mixing is used to comply with paragraph (a).

(c) Multiple stacks. If an owner or operator burns hazardous waste in more than one on-site boiler or industrial furnace exempt under this section, the quantity limits provided by paragraph (a)(1) of this section are implemented according to the following equation:

$$\sum_{i=1}^n \frac{\text{Actual Quantity Burned}_{(i)}}{\text{Allowable Quantity Burned}_{(i)}} \leq 1.0$$

where:

n means the number of stacks;

Actual Quantity Burned means the waste quantity burned per month in device “*i*”;

Allowable Quantity Burned means the maximum allowable exempt quantity for stack “*i*” from the table in (a)(1) above.

Note: Hazardous wastes that are subject to the special requirements for small quantity generators under § 261.5 of this rule may be burned in an off-site device under the exemption provided by § 266.108, but must be included in the quantity determination for the exemption.

(d) Notification requirements. The owner or operator of facilities qualifying for the small quantity burner exemption under this section must provide a one-time signed, written notice to the Division indicating the following:

(1) The combustion unit is operating as a small quantity burner of hazardous waste;

(2) The owner and operator are in compliance with the requirements of this section; and

(3) The maximum quantity of hazardous waste that the facility may burn per month as provided by § 266.108(a)(1).

(e) Recordkeeping requirements. The owner or operator must maintain at the facility for at least three years sufficient records documenting compliance with the hazardous waste quantity, firing rate, and heating value limits of this section. At a minimum, these records must indicate the quantity of hazardous waste and other fuel burned in each unit per calendar month, and the heating value of the hazardous waste.

§ 266.109 Low risk waste exemption

(a) Waiver of DRE standard. The DRE standard of § 266.104(a) does not apply if the boiler or industrial furnace is operated in conformance with (a)(1) of this section and the owner or operator demonstrates by procedures prescribed in (a)(2) of this section that the burning will not result in unacceptable adverse health effects.

(1) The device shall be operated as follows:

(i) A minimum of 50 percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the Director on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed “primary fuel” for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50 percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;

(ii) Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb;

(iii) The hazardous waste is fired directly into the primary fuel flame zone of the combustion chamber; and

(iv) The device operates in conformance with the carbon monoxide controls provided by § 266.104(b)(1). Devices subject to the exemption provided by this section are not eligible for the alternative carbon monoxide controls provided by § 266.104(c).

(2) Procedures to demonstrate that the hazardous waste burning will not pose unacceptable adverse public health effects are as follows:

(i) Identify and quantify those nonmetal compounds listed in Appendix VIII, Section 261 of this rule that could reasonably be expected to be present in the hazardous waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained;

(ii) Calculate reasonable, worst case emission rates for each constituent identified in paragraph (a)(2)(i) of this section by assuming the device achieves 99.9 percent destruction and removal efficiency. That is, assume that 0.1 percent of the mass weight of each constituent fed to the device is emitted.

(iii) For each constituent identified in paragraph (a)(2)(i) of this section, use emissions dispersion modeling to predict the maximum annual average ground level concentration of the constituent.

(A) Dispersion modeling shall be conducted using methods specified in § 266.106(h).

(B) Owners and operators of facilities with more than one on-site stack from a boiler or industrial furnace that is exempt under this section must conduct dispersion modeling of emissions from all stacks exempt under this section to predict ambient levels prescribed by this paragraph.

(iv) Ground level concentrations of constituents predicted under paragraph (a)(2)(iii) of this section must not exceed the following levels:

(A) For the noncarcinogenic compounds listed in Appendix IV of this Section, the levels established in Appendix IV;

(B) For the carcinogenic compounds listed in Appendix V of this part, the sum for all constituents of the ratios of the actual ground level concentration to the level established in Appendix V cannot exceed 1.0; and

(C) For constituents not listed in Appendix IV or V, 0.1 micrograms per cubic meter.

(b) Waiver of particulate matter standard. The particulate matter standard of § 266.105 does not apply if:

(1) The DRE standard is waived under paragraph (a) of this section; and

(2) The owner or operator complies with the Tier I or adjusted Tier I metals feed rate

screening limits provided by § 266.106 (b) or (e).

§ 266.110 Waiver of DRE trial burn for boilers

Boilers that operate under the special requirements of this section, and that do not burn hazardous waste containing (or derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027, are considered to be in conformance with the DRE standard of § 266.104(a), and a trial burn to demonstrate DRE is waived. When burning hazardous waste:

(a) A minimum of 50 percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the Director on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed “primary fuel” for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50 percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;

(b) Boiler load shall not be less than 40 percent. Boiler load is the ratio at any time of the total heat input to the maximum design heat input;

(c) Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb, and each material fired in a burner where hazardous waste is fired must have a heating value of at least 8,000 Btu/lb, as-fired;

(d) The device shall operate in conformance with the carbon monoxide standard provided by § 266.104(b)(1). Boilers subject to the waiver of the DRE trial burn provided by this section are not eligible for the alternative carbon monoxide standard provided by § 266.104(c);

(e) The boiler must be a watertube type boiler that does not feed fuel using a stoker or stoker type mechanism; and

(f) The hazardous waste shall be fired directly into the primary fuel flame zone of the combustion chamber with an air or steam atomization firing system, mechanical atomization system, or a rotary cup atomization system under the following conditions:

(1) Viscosity. The viscosity of the hazardous waste fuel as-fired shall not exceed 300 SSU;

(2) Particle size. When a high pressure air or steam atomizer, low pressure atomizer, or mechanical atomizer is used, 70% of the hazardous waste fuel must pass through a 200 mesh (74 micron) screen, and when a rotary cup atomizer is used, 70% of the hazardous waste must pass through a 100 mesh (150 micron) screen;

(3) Mechanical atomization systems. Fuel pressure within a mechanical atomization system and fuel flow rate shall be maintained within the design range taking into account the viscosity and volatility of the fuel;

(4) Rotary cup atomization systems. Fuel flow rate through a rotary cup atomization system must be maintained within the design range taking into account the viscosity and volatility of the fuel.

§ 266.111 Standards for direct transfer

(a) Applicability. The rules in this section apply to owners and operators of boilers and industrial furnaces subject to §§ 266.102 or 266.103 if hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit.

(b) Definitions. (1) When used in this section, the following terms have the meanings given

below:

“Direct transfer equipment” means any device (including but not limited to, such devices as piping, fittings, flanges, valves, and pumps) that is used to distribute, meter, or control the flow of hazardous waste between a container (i.e., transport vehicle) and a boiler or industrial furnace.

“Container” means any portable device in which hazardous waste is transported, stored, treated, or otherwise handled, and includes transport vehicles that are containers themselves (e.g., tank trucks, tanker-trailers, and rail tank cars), and containers placed on or in a transport vehicle.

(2) This section references several requirements provided in subparts I and J of parts 264 and 265. For purposes of this section, the term “tank systems” in those referenced requirements means direct transfer equipment as defined in paragraph (b)(1) of this section.

(c) General operating requirements.

(1) No direct transfer of a pumpable hazardous waste shall be conducted from an open-top container to a boiler or industrial furnace.

(2) Direct transfer equipment used for pumpable hazardous waste shall always be closed, except when necessary to add or remove the waste, and shall not be opened, handled, or stored in a manner that may cause any rupture or leak.

(3) The direct transfer of hazardous waste to a boiler or industrial furnace shall be conducted so that it does not:

- (i) Generate extreme heat or pressure, fire, explosion, or violent reaction;
- (ii) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- (iii) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- (iv) Damage the structural integrity of the container or direct transfer equipment containing the waste;
- (v) Adversely affect the capability of the boiler or industrial furnace to meet the standards provided by §§ 266.104 through 266.107; or
- (vi) Threaten human health or the environment.

(4) Hazardous waste shall not be placed in direct transfer equipment, if it could cause the equipment or its secondary containment system to rupture, leak, corrode, or otherwise fail.

(5) The owner or operator of the facility shall use appropriate controls and practices to prevent spills and overflows from the direct transfer equipment or its secondary containment systems. These include at a minimum:

- (i) Spill prevention controls (e.g., check valves, dry discount couplings); and
- (ii) Automatic waste feed cutoff to use if a leak or spill occurs from the direct transfer equipment.

(d) Areas where direct transfer vehicles (containers) are located. Applying the definition of container under this section, owners and operators must comply with the following requirements:

(1) The containment requirements of § 264.175 of this rule;

(2) The use and management requirements of subsection I, Section 265 of this rule, except for §§ 265.170 and 265.174, and except that in lieu of the special requirements of § 265.176 for ignitable or reactive waste, the owner or operator may comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjacent property line that can be built upon as required in Tables

2-1 through 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see § 260.11). The owner or operator must obtain and keep on file at the facility a written certification by the local Fire Marshall that the installation meets the subject NFPA codes; and

(3) The closure requirements of § 264.178 of this rule.

(e) Direct transfer equipment. Direct transfer equipment must meet the following requirements:

(1) Secondary containment. Owners and operators shall comply with the secondary containment requirements of § 265.193 of this rule, except for paragraphs 265.193 (a), (d), (e), and (i) as follows:

(i) For all new direct transfer equipment, prior to their being put into service; and

(ii) For existing direct transfer equipment within 2 years after August 21, 1991.

(2) Requirements prior to meeting secondary containment requirements. (i) For existing direct transfer equipment that does not have secondary containment, the owner or operator shall determine whether the equipment is leaking or is unfit for use. The owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by a qualified, registered professional engineer in accordance with § 270.11(d) of this rule that attests to the equipment's integrity by August 21, 1992.

(ii) This assessment shall determine whether the direct transfer equipment is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be transferred to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment shall consider the following:

(A) Design standard(s), if available, according to which the direct transfer equipment was constructed;

(B) Hazardous characteristics of the waste(s) that have been or will be handled;

(C) Existing corrosion protection measures;

(D) Documented age of the equipment, if available, (otherwise, an estimate of the age); and

(E) Results of a leak test or other integrity examination such that the effects of temperature variations, vapor pockets, cracks, leaks, corrosion, and erosion are accounted for.

(iii) If, as a result of the assessment specified above, the direct transfer equipment is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of §§ 265.196 (a) and (b) of this rule.

(3) Inspections and recordkeeping. (i) The owner or operator must inspect at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the boiler or industrial furnace:

(A) Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(B) The above ground portions of the direct transfer equipment to detect corrosion, erosion, or releases of waste (e.g., wet spots, dead vegetation); and

(C) Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges) to ensure that the direct transfer equipment is being operated according to its design.

(ii) The owner or operator must inspect cathodic protection systems, if used, to ensure that they are functioning properly according to the schedule provided by § 265.195(b) of

this rule:

(iii) Records of inspections made under this paragraph shall be maintained in the operating record at the facility, and available for inspection for at least 3 years from the date of the inspection.

(4) Design and installation of new ancillary equipment. Owners and operators must comply with the requirements of § 265.192 of this rule.

(5) Response to leaks or spills. Owners and operators must comply with the requirements of § 265.196 of this rule.

(6) Closure. Owners and operators must comply with the requirements of § 265.197 of this rule, except for § 265.197 (c)(2) through (c)(4).

§ 266.112 Rule of residues

A residue derived from the burning or processing of hazardous waste in a boiler or industrial furnace is not excluded from the definition of a hazardous waste under § 261.4(b) (4), (7), or (8) unless the device and the owner or operator meet the following requirements:

(a) The device meets the following criteria:

(1) Boilers. Boilers must burn at least 50% coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal;

(2) Ore or mineral furnaces. Industrial furnaces subject to § 261.4(b)(7) must process at least 50% by weight normal, nonhazardous raw materials;

(3) Cement kilns. Cement kilns must process at least 50% by weight normal cement-production raw materials;

(b) The owner or operator demonstrates that the hazardous waste does not significantly affect the residue by demonstrating conformance with either of the following criteria:

(1) Comparison of waste-derived residue with normal residue. The waste-derived residue must not contain Appendix VIII, Section 261 constituents (toxic constituents) that could reasonably be attributable to the hazardous waste at concentrations significantly higher than in residue generated without burning or processing of hazardous waste, using the following procedure. Toxic compounds that could reasonably be attributable to burning or processing the hazardous waste (constituents of concern) include toxic constituents in the hazardous waste, and the organic compounds listed in Appendix VIII of this section that may be generated as products of incomplete combustion. For polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses must be performed to determine specific congeners and homologues, and the results converted to 2,3,7,8-TCDD equivalent values using the procedure specified in section 4.0 of appendix IX of this section.

(i) Normal residue. Concentrations of toxic constituents of concern in normal residue shall be determined based on analyses of a minimum of 10 samples representing a minimum of 10 days of operation. Composite samples may be used to develop a sample for analysis provided that the compositing period does not exceed 24 hours. The upper tolerance limit (at 95% confidence with a 95% proportion of the sample distribution) of the concentration in the normal residue shall be considered the statistically-derived concentration in the normal residue. If changes in raw materials or fuels reduce the statistically-derived concentrations of the toxic constituents of concern in the normal residue, the statistically-derived concentrations must be revised or statistically-derived

concentrations of toxic constituents in normal residue must be established for a new mode of operation with the new raw material or fuel. To determine the upper tolerance limit in the normal residue, the owner or operator shall use statistical procedures prescribed in “Statistical Methodology for Bevill Residue Determinations” in Appendix IX of this section.

(ii) Waste-derived residue. Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the concentrations established for the normal residue under paragraph (b)(1)(i) of this section. If so, hazardous waste burning has significantly affected the residue and the residue shall not be excluded from the definition of a hazardous waste. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results may be disregarded; or

(2) Comparison of waste-derived residue concentrations with health-based limits-

(i) *Nonmetal constituents.* The concentration of each nonmetal toxic constituent of concern (specified in paragraph (b)(1) of this section) in the waste-derived residue must not exceed the health-based level specified in appendix VII of this Section, or the level of detection whichever is higher. If a health-based limit for a constituent of concern is not listed in appendix VII of this part, then a limit of 0.002 micrograms per kilogram or the level of detection (using analytical procedures contained in SW-846, or other appropriate methods), whichever is higher, must be used. The levels specified in appendix VII of this section (and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in Note 1 of appendix VII of this paragraph) are administratively stayed under the condition, for those constituents specified in paragraph b)(1) of this section, that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in § 268.43 of this rule for F039 nonwaste-waters. In complying with those alternative levels, if an owner or operator is unable detect a constituent despite documenting use of best good-faith efforts as defined by applicable EPA or Division guidance or standards, the owner or operator is deemed to be in compliance for that constituent. Until new guidance or standards are developed, the owner or operator may demonstrate such good faith efforts by achieving a detection limit for the constituent that does not exceed an order of magnitude above the level provided by § 268.43 of this rule for F039 nonwastewaters. In complying with the § 268.43 of this rule F039 nonwastewater levels for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses must be performed for total hexachlorodibenzo-p-dioxins, total hexachlorodibenzofurans, total pentachloro-dibenzo-p-dioxins, total pentachlorodibenzo-furans, total tetrachlorodibenzo-p-dioxins, and total tetrachlorodibenzofurans.

Note to this paragraph (b)(2)(i): The administrative stay, under the condition that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified

in § 268.43 of this Rule for F039 nonwastewaters, remains in effect until further administrative action is taken and notice is published in the Federal Register and the Code of Federal Regulations.

(ii) Metal constituents. The concentration of metals in an extract obtained using the Toxicity Characteristic Leaching Procedure of § 261.24 of this rule must not exceed the levels specified in Appendix VII of this section and

(iii) Sampling and analysis. Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the health-based levels. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results may be disregarded; and

(c) Records sufficient to document compliance with the provisions of this section shall be retained until closure of the boiler or industrial furnace unit. At a minimum, the following shall be recorded.

(1) Levels of constituents in Appendix VIII, Section 261, that are present in waste-derived residues;

(2) If the waste-derived residue is compared with normal residue under paragraph (b)(1) of this section:

(i) The levels of constituents in Appendix VIII, Section 261, that are present in normal residues; and

(ii) Data and information, including analyses of samples as necessary, obtained to determine if changes in raw materials or fuels would reduce the concentration of toxic constituents of concern in the normal residue.

Subsections I-L (Reserved)

Subsection M — Military Munitions

§ 266.200 Applicability

(a) The rules in this subsection identify when military munitions become a solid waste, and, if these wastes are also hazardous under this subsection or Section 261, the management standards that apply to these wastes.

(b) Unless otherwise specified in this subsection, all applicable requirements in Sections 260 through 270 apply to waste military munitions.

§ 266.201 Definitions

In addition to the definitions in § 260.10, the following definitions apply to this subsection:

“Active range” means a military range that is currently in service and is being regularly used for range activities.

“Chemical agents and munitions” are defined as in 50 U.S.C. section 1521(j)(1).

“Director” is as defined in § 270.2.

“Explosives or munitions emergency response specialist” is as defined in § 260.10.

“Explosives or munitions emergency” is as defined in § 260.10.

“Explosives or munitions emergency response” is as defined in § 260.10.

“Inactive range” means a military range that is not currently being used, but that is still under military control and considered by the military to be a potential range area, and that has not been put to a new use that is incompatible with range activities.

“Military” means the Department of Defense (DOD), the Armed Services, Coast Guard, National Guard, Department of Energy (DOE), or other parties under contract or acting as an agent for the foregoing, who handle military munitions.

“Military munitions” is as defined in § 260.10.

“Military range” means designated land and water areas set aside, managed, and used to conduct research on, develop, test, and evaluate military munitions and explosives, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas.

“Unexploded ordnance (UXO)” means military munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material and remain unexploded either by malfunction, design, or any other cause.

§ 266.202 Definition of solid waste

(a) A military munition is not a solid waste when:

(1) Used for its intended purpose, including:

(i) Use in training military personnel or explosives and munitions emergency response specialists (including training in proper destruction of unused propellant or other munitions); or

(ii) Use in research, development, testing, and evaluation of military munitions, weapons, or weapon systems; or

(iii) Recovery, collection, and on-range destruction of unexploded ordnance and munitions fragments during range clearance activities at active or inactive ranges.

However, “use for intended purpose” does not include the on-range disposal or burial of unexploded ordnance and contaminants when the burial is not a result of product use.

(2) An unused munition, or component thereof, is being repaired, reused, recycled, reclaimed, disassembled, reconfigured, or otherwise subjected to materials recovery activities, unless such activities involve use constituting disposal as defined in § 261.2(c)(1), or burning for energy recovery as defined in § 261.2(c)(2).

(b) An unused military munition is a solid waste when any of the following occurs:

(1) The munition is abandoned by being disposed of, burned, detonated (except during intended use as specified in paragraph (a) of this section), incinerated, or treated prior to disposal; or

(2) The munition is removed from storage in a military magazine or other storage area for

the purpose of being disposed of, burned, or incinerated, or treated prior to disposal, or

(3) The munition is deteriorated or damaged (e.g., the integrity of the munition is compromised by cracks, leaks, or other damage) to the point that it cannot be put into serviceable condition, and cannot reasonably be recycled or used for other purposes; or

(4) The munition has been declared a solid waste by an authorized military official.

(c) A used or fired military munition is a solid waste:

(1) When transported off range or from the site of use, where the site of use is not a range, for the purposes of storage, reclamation, treatment, disposal, or treatment prior to disposal; or

(2) If recovered, collected, and then disposed of by burial, or landfilling either on or off a range.

(d) For purposes of RCRA section 1004(27), a used or fired military munition is a solid waste, and, therefore, is potentially subject to RCRA corrective action authorities under sections 3004(u) and (v), and 3008(h), or imminent and substantial endangerment authorities under section 7003, if the munition lands off-range and is not promptly rendered safe and/or retrieved. Any imminent and substantial threats associated with any remaining material must be addressed. If remedial action is infeasible, the operator of the range must maintain a record of the event for as long as any threat remains. The record must include the type of munition and its location (to the extent the location is known).

§ 266.203 Standards applicable to the transportation of solid waste military munitions

(a) Criteria for hazardous waste rule of waste non-chemical military munitions in transportation.

(1) Waste military munitions that are being transported and that exhibit a hazardous waste characteristic or are listed as hazardous waste under Section 261, are listed or identified as a hazardous waste (and thus are subject to rules under Sections 260 through 270), unless all the following conditions are met:

(i) The waste military munitions are not chemical agents or chemical munitions;

(ii) The waste military munitions must be transported in accordance with the Department of Defense shipping controls applicable to the transport of military munitions;

(iii) The waste military munitions must be transported from a military owned or operated installation to a military owned or operated treatment, storage, or disposal facility; and

(iv) The transporter of the waste must provide oral notice to the Director within 24 hours from the time the transporter becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of paragraph (a)(1) of this section that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of paragraph (a)(1) of this section.

(2) If any waste military munitions shipped under paragraph (a)(1) of this section are not received by the receiving facility within 45 days of the day the waste was shipped, the owner or operator of the receiving facility must report this non-receipt to the Director within 5 days.

(3) The exemption in paragraph (a)(1) of this section from rule as hazardous waste shall apply only to the transportation of non-chemical waste military munitions. It does not affect

the regulatory status of waste military munitions as hazardous wastes with regard to storage, treatment or disposal.

(4) The conditional exemption in paragraph (a)(1) of this section applies only so long as all of the conditions in paragraph (a)(1) of this section are met.

(b) Reinstatement of exemption. If any waste military munition loses its exemption under paragraph (a)(1) of this section, an application may be filed with the Director for reinstatement of the exemption from hazardous waste transportation rule with respect to such munition as soon as the munition is returned to compliance with the conditions of paragraph (a)(1) of this section. If the Director finds that reinstatement of the exemption is appropriate based on factors such as the transporter's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the Director may reinstate the exemption under paragraph (a)(1) of this section. If the Director does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. The Director may terminate a conditional exemption reinstated by default in the preceding sentence if the Director finds that reinstatement is inappropriate based on factors such as the transporter's failure to provide a satisfactory explanation of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the exemption under paragraph (a)(1) of this section, the Director may specify additional conditions as are necessary to ensure and document proper transportation to protect human health and the environment.

(c) Amendments to DOD shipping controls. The Department of Defense shipping controls applicable to the transport of military munitions referenced in paragraph (a)(1)(ii) of this section are Government Bill of Lading (GBL) (GSA Standard Form 1109), requisition tracking form DD Form 1348, the Signature and Talley Record (DD Form 1907), Special Instructions for Motor Vehicle Drivers (DD Form 836), and the Motor Vehicle Inspection Report (DD Form 626) in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the Department of Defense shipping controls shall become effective for purposes of paragraph (a)(1) of this section on the date the Department of Defense publishes notice in the Federal Register that the shipping controls referenced in paragraph (a)(1)(ii) of this section have been amended.

§ 266.204 Standards applicable to emergency responses

Explosives and munitions emergencies involving military munitions or explosives are subject to §§ 262.10(i), 263.10(e), 264.1(g)(8), 265.1(c)(11), and 270.1(c)(3), or alternatively to § 270.61 of this rule.

§ 266.205 Standards applicable to the storage of solid waste military munitions

(a) Criteria for hazardous waste rule of waste non-chemical military munitions in storage. (1) Waste military munitions in storage that exhibit a hazardous waste characteristic or are listed as hazardous waste under Section 261, are listed or identified as a hazardous waste (and thus are subject to rule under Sections 260 through 279), unless all the following conditions are met:

- (i) The waste military munitions are not chemical agents or chemical munitions.
- (ii) The waste military munitions must be subject to the jurisdiction of the Department of Defense Explosives Safety Board (DDESB).
- (iii) The waste military munitions must be stored in accordance with the DDESB

storage standards applicable to waste military munitions.

(iv) Within 90 days of August 12, 1997 or within 90 days of when a storage unit is first used to store waste military munitions, whichever is later, the owner or operator must notify the Director of the location of any waste storage unit used to store waste military munitions for which the conditional exemption in paragraph (a)(1) is claimed.

(v) The owner or operator must provide oral notice to the Director within 24 hours from the time the owner or operator becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of paragraph (a)(1) that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from the time the owner or operator becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of paragraph (a)(1) of this section.

(vi) The owner or operator must inventory the waste military munitions at least annually, must inspect the waste military munitions at least quarterly for compliance with the conditions of paragraph (a)(1) of this section, and must maintain records of the findings of these inventories and inspections for at least three years.

(vii) Access to the stored waste military munitions must be limited to appropriately trained and authorized personnel.

(2) The conditional exemption in paragraph (a)(1) of this section from rule as hazardous waste shall apply only to the storage of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to transportation, treatment or disposal.

(3) The conditional exemption in paragraph (a)(1) of this section applies only so long as all of the conditions in paragraph (a)(1) of this section are met.

(b) Notice of termination of waste storage. The owner or operator must notify the Director when a storage unit identified in paragraph (a)(1)(iv) of this section will no longer be used to store waste military munitions.

(c) Reinstatement of conditional exemption. If any waste military munition loses its conditional exemption under paragraph (a)(1) of this section, an application may be filed with the Director for reinstatement of the conditional exemption from hazardous waste storage rule with respect to such munition as soon as the munition is returned to compliance with the conditions of paragraph (a)(1) of this section. If the Director finds that reinstatement of the conditional exemption is appropriate based on factors such as the owner's or operator's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the Director may reinstate the conditional exemption under paragraph (a)(1) of this section. If the Director does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the Director may terminate a conditional exemption reinstated by default in the preceding sentence if he/she finds that reinstatement is inappropriate based on factors such as the owner's or operator's failure to provide a satisfactory explanation of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the conditional exemption under paragraph (a)(1) of this section, the Director may specify additional conditions as are necessary to ensure and document proper storage to protect human health and the environment.

(d) Waste chemical munitions. (1) Waste military munitions that are chemical agents or

chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under Section 261, are listed or identified as a hazardous waste and shall be subject to the applicable regulatory requirements of RCRA subtitle C.

(2) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under Section 261, are not subject to the storage prohibition in RCRA section 3004(j), codified at 40 CFR 268.50.

(e) Amendments to DDESB storage standards. The DDESB storage standards applicable to waste military munitions, referenced in paragraph (a)(1)(iii) of this section, are DOD 6055.9-STD (“DOD Ammunition and Explosive Safety Standards”), in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the DDESB storage standards shall become effective for purposes of paragraph (a)(1) of this section on the date the Department of Defense publishes notice in the Federal Register that the DDESB standards referenced in paragraph (a)(1) of this section have been amended.

§ 266.206 Standards applicable to the treatment and disposal of waste military munitions

The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in Sections 260 through 270 of this rule.

Subpart N—Conditional Exemption for Low-Level Mixed Waste Storage, Treatment, Transportation, and Disposal

Terms

§ 266.210 What definitions apply to this subpart?

This subsection uses the following special definitions:

“Agreement State” means a state that has entered into an agreement with the NRC under subsection 274b of the Atomic Energy Act of 1954, as amended (68 Stat. 919), to assume responsibility for regulating within its borders byproduct, source, or special nuclear material in quantities not sufficient to form a critical mass.

“Certified delivery” means certified mail with return receipt requested, or equivalent courier service, or other means, that provides the sender with a receipt confirming delivery.

“Director” refers to the definition in § 270.2.

“Eligible Naturally Occurring and/or Accelerator-produced Radioactive Material” (NARM) is NARM that is eligible for the Transportation and Disposal Conditional Exemption. It is a NARM waste that contains RCRA hazardous waste, meets the waste acceptance criteria of, and is allowed by State NARM regulations to be disposed of at a low-level radioactive waste disposal facility (LLRWDF) licensed in accordance with 10 CFR Part 61 or NRC Agreement State equivalent regulations.

“Exempted waste” means a waste that meets the eligibility criteria in § 266.225 and meets all of the conditions in § 266.230, or meets the eligibility criteria in § 266.310 and complies with all the conditions in § 266.315. Such waste is conditionally exempted from the regulatory definition

of hazardous waste described in § 261.3 of this rule.

“Hazardous Waste” means any material which is defined to be hazardous waste in accordance with § 261.3, “Definition of Hazardous Waste.”

“Land Disposal Restriction (LDR) Treatment Standards” means treatment standards, under Section 268 of this rule, that a RCRA hazardous waste must meet before it can be disposed of in a RCRA hazardous waste land disposal unit.

“License” means a license issued by the Nuclear Regulatory Commission, or NRC Agreement State, to users that manage radionuclides regulated by NRC, or NRC Agreement States, under authority of the Atomic Energy Act of 1954, as amended.

“Low-Level Mixed Waste” (LLMW) is a waste that contains both low-level radioactive waste and RCRA hazardous waste.

“Low-Level Radioactive Waste” (LLW) is a radioactive waste which contains source, special nuclear, or by-product material, and which is not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act. (See also NRC definition of “waste” at 10 CFR 61.2)

“Mixed Waste” means a waste that contains both RCRA hazardous waste and source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended.

“Naturally Occurring and/or Accelerator-produced Radioactive Material” (NARM) means radioactive materials that:

(1) Are naturally occurring and are not source, special nuclear, or byproduct materials (as defined by the AEA) or

(2) Are produced by an accelerator. NARM is regulated by the States under State law, or by DOE (as authorized by the AEA) under DOE orders.

“NRC” means the U. S. Nuclear Regulatory Commission.

“We” or “us” within this subpart, means the Director as defined in § 270.2 of this rule.

“You” means a generator, treater, or other handler of low-level mixed waste or eligible NARM.

Storage and Treatment Conditional Exemption and Eligibility

§ 266.220 What does a storage and treatment conditional exemption do?

The storage and treatment conditional exemption exempts your low-level mixed waste from the regulatory definition of hazardous waste in § 261.3 if your waste meets the eligibility criteria in § 266.225 and you meet the conditions in § 266.230.

§ 266.225 What wastes are eligible for the storage and treatment conditional exemption?

Low-level mixed waste (LLMW), defined in § 266.210, is eligible for this conditional exemption if it is generated and managed by you under a single NRC or NRC Agreement State license. (Mixed waste generated at a facility with a different license number and shipped to your facility for storage or treatment requires a permit and is ineligible for this exemption. In addition, NARM waste is ineligible this exemption.)

§ 266.230 What conditions must you meet for your LLMW to qualify for and maintain a storage and treatment exemption?

(a) For your LLMW to qualify for the exemption you must notify us in writing by certified delivery that you are claiming a conditional exemption for the LLMW stored on your facility. The dated notification must include your name, address, RCRA identification number, NRC or NRC Agreement State license number, the waste code(s) and storage unit(s) for which you are seeking an exemption, and a statement that you meet the conditions of this subpart. Your notification must be signed by your authorized representative who certifies that the information in the notification is true, accurate, and complete. You must notify us of your claim either within 90 days of the effective date of this rule in your State, or within 90 days of when a storage unit is first used to store conditionally exempt LLMW.

(b) To qualify for and maintain an exemption for your LLMW you must:

(1) Store your LLMW waste in tanks or containers in compliance with the requirements of your license that apply to the proper storage of low-level radioactive waste (not including those license requirements that relate solely to recordkeeping);

(2) Store your LLMW in tanks or containers in compliance with chemical compatibility requirements of a tank or container in §§ 264.177, or 264.199 or 265.177, or 265.199 of this rule;

(3) Certify that facility personnel who manage stored conditionally exempt LLMW are trained in a manner that ensures that the conditionally exempt waste is safely managed and includes training in chemical waste management and hazardous materials incidents response that meets the personnel training standards found in § 265.16(a)(3) of this rule;

(4) Conduct an inventory of your stored conditionally exempt LLMW at least annually and inspect it at least quarterly for compliance with subsection N of this section; and

(5) Maintain an accurate emergency plan and provide it to all local authorities who may have to respond to a fire, explosion, or release of hazardous waste or hazardous constituents. Your plan must describe emergency response arrangements with local authorities; describe evacuation plans; list the names, addresses, and telephone numbers of all facility personnel qualified to work with local authorities as emergency coordinators; and list emergency equipment.

Treatment

§ 266.235 What waste treatment does the storage and treatment conditional exemption allow?

You may treat your low-level mixed waste at your facility within a tank or container in accordance with the terms of your NRC or NRC Agreement State license. Treatment that cannot be done in a tank or container without a RCRA permit (such as incineration) is not allowed under this exemption.

Loss of Conditional Exemption

§ 266.240 How could you lose the conditional exemption for your LLMW and what action must you take?

(a) Your LLMW will automatically lose the storage and treatment conditional exemption if you

fail to meet any of the conditions specified in § 266.230. When your LLMW loses the exemption, you must immediately manage that waste which failed the condition as RCRA hazardous waste, and the storage unit storing the LLMW immediately becomes subject to RCRA hazardous waste container and/or tank storage requirements.

(1) If you fail to meet any of the conditions specified in § 266.230 you must report to us and the NRC, or the oversight agency in the NRC Agreement State, in writing by certified delivery within 30 days of learning of the failure. Your report must be signed by your authorized representative certifying that the information provided is true, accurate, and complete. This report must include:

- (i) The specific condition(s) you failed to meet;
- (ii) A description of the LLMW (including the waste name, hazardous waste codes and quantity) and storage location at the facility; and
- (iii) The date(s) on which you failed to meet the condition(s).

(2) If the failure to meet any of the conditions may endanger human health or the environment, you must also immediately notify us orally within 24 hours and follow up with a written notification within five days. Failures that may endanger human health or the environment include, but are not limited to, discharge of a CERCLA reportable quantity or other leaking or exploding tanks or containers, or detection of radionuclides above background or hazardous constituents in the leachate collection system of a storage area. If the failure may endanger human health or the environment, you must follow the provisions of your emergency plan.

(b) We may terminate your conditional exemption for your LLMW, or require you to meet additional conditions to claim a conditional exemption, for serious or repeated noncompliance with any requirement(s) of subpart N of this part.

§ 266.245 If you lose the storage and treatment conditional exemption for your LLMW, can the exemption be reclaimed?

(a) You may reclaim the storage and treatment exemption for your LLMW if:

- (1) You again meet the conditions specified in § 266.230; and
- (2) You send us a notice by certified delivery that you are reclaiming the exemption for your LLMW. Your notice must be signed by your authorized representative certifying that the information contained in your notice is true, complete, and accurate. In your notice you must do the following:
 - (i) Explain the circumstances of each failure.
 - (ii) Certify that you have corrected each failure that caused you to lose the exemption for your LLMW and that you again meet all the conditions as of the date you specify.
 - (iii) Describe plans that you have implemented, listing specific steps you have taken, to ensure the conditions will be met in the future.
 - (iv) Include any other information you want us to consider when we review your notice reclaiming the exemption.

(b) We may terminate a reclaimed conditional exemption if we find that your claim is inappropriate based on factors including, but not limited to, the following: you have failed to correct the problem; you explained the circumstances of the failure unsatisfactorily; or you failed to implement a plan with steps to prevent another failure to meet the conditions of §266.230. In

reviewing a reclaimed conditional exemption under this section, we may add conditions to the exemption to ensure that waste management during storage and treatment of the LLMW will protect human health and the environment.

Recordkeeping

§ 266.250 What records must you keep at your facility and for how long?

(a) In addition to those records required by your NRC or NRC Agreement State license, you must keep records as follows:

- (1) Your initial notification records, return receipts, reports to us of failure(s) to meet the exemption conditions, and all records supporting any reclaim of an exemption;
- (2) Records of your LLMW annual inventories, and quarterly inspections;
- (3) Your certification that facility personnel who manage stored mixed waste are trained in safe management of LLMW including training in chemical waste management and hazardous materials incidents response; and
- (4) Your emergency plan as specified in § 266.230(b).

(b) You must maintain records concerning notification, personnel trained, and your emergency plan for as long as you claim this exemption and for three years thereafter, or in accordance with NRC regulations under 10 CFR part 20 (or equivalent NRC Agreement State regulations), whichever is longer. You must maintain records concerning your annual inventory and quarterly inspections for three years after the waste is sent for disposal, or in accordance with NRC regulations under 10 CFR part 20 (or equivalent NRC Agreement State regulations), whichever is longer.

Reentry Into RCRA

§ 266.255 When is your LLMW no longer eligible for the storage and treatment conditional exemption?

(a) When your LLMW has met the requirements of your NRC or NRC Agreement State license for decay-in-storage and can be disposed of as non-radioactive waste, then the conditional exemption for storage no longer applies. On that date your waste is subject to hazardous waste rule under the relevant sections of Sections 260 through 268 of this rule, and the time period for accumulation of a hazardous waste as specified in § 262.16 or 262.17 begins.

(b) When your conditionally exempt LLMW, which has been generated and stored under a single NRC or NRC Agreement State license number, is removed from storage, it is no longer eligible for the storage and treatment exemption. However, your waste may be eligible for the transportation and disposal conditional exemption at §266.305.

Storage Unit Closure

§ 266.260 Do closure requirements apply to units that stored LLMW prior to the effective date of Subpart N?

Interim status and permitted storage units that have been used to store only LLMW prior to the effective date of subpart N of this part and, after that date, store only LLMW which becomes exempt under this subpart N, are not subject to the closure requirements of Sections 264 and 265 of this rule. Storage units (or portions of units) that have been used to store both LLMW and non-mixed hazardous waste prior to the effective date of subpart N or are used to store both after that date remain subject to closure requirements with respect to the non-mixed hazardous waste.

Transportation and Disposal Conditional Exemption

§ 266.305 What does the transportation and disposal conditional exemption do?

This conditional exemption exempts your waste from the regulatory definition of hazardous waste in § 261.3 if your waste meets the eligibility criteria under § 266.310, and you meet the conditions in § 266.315.

Eligibility

§ 266.310 What wastes are eligible for the transportation and disposal conditional exemption?

Eligible waste must be:

- (a) A low-level mixed waste (LLMW), as defined in § 266.210, that meets the waste acceptance criteria of a LLRWDF; and/or
- (b) An eligible NARM waste, defined in § 266.210.

Conditions

§ 266.315 What are the conditions you must meet for your waste to qualify for and maintain the transportation and disposal conditional exemption?

You must meet the following conditions for your eligible waste to qualify for and maintain the exemption:

- (a) The eligible waste must meet or be treated to meet LDR treatment standards as described in § 266.320.
- (b) If you are not already subject to NRC, or NRC Agreement State equivalent manifest and transportation regulations for the shipment of your waste, you must manifest and transport your waste according to NRC regulations as described in § 266.325.
- (c) The exempted waste must be in containers when it is disposed of in the LLRWDF as described in § 266.340.
- (d) The exempted waste must be disposed of at a designated LLRWDF as described in § 266.335.

§ 266.320 What treatment standards must your eligible waste meet?

Your LLMW or eligible NARM waste must meet Land Disposal Restriction (LDR) treatment standards specified in Section 268, subpart D of this rule.

§266.325 Are you subject to the manifest and transportation condition in §266.315(b)?

If you are not already subject to NRC, or NRC Agreement State equivalent manifest and transportation regulations for the shipment of your waste, you must meet the manifest requirements under 10 CFR 20.2006 (or NRC Agreement State equivalent regulations), and the transportation requirements under 10 CFR 1.5 (or NRC Agreement State equivalent regulations) to ship the exempted waste.

§ 266.330 When does the transportation and disposal exemption take effect?

The exemption becomes effective once all the following have occurred:

- (a) Your eligible waste meets the applicable LDR treatment standards.
- (b) You have received return receipts that you have notified both DEQ and the LLRWDF as described in 266.345.
- (c) You have completed the packaging and preparation for shipment requirements for your waste according to NRC Packaging and Transportation regulations found under 10 CFR part 71 (or NRC Agreement State equivalent regulations); and you have prepared a manifest for your waste according to NRC manifest regulations found under 10 CFR part 20 (or NRC Agreement State equivalent regulations), and
- (d) You have placed your waste on a transportation vehicle destined for a LLRWDF licensed by NRC or an NRC Agreement State.

§ 266.335 Where must your exempted waste be disposed of?

Your exempted waste must be disposed of in a LLRWDF that is regulated and licensed by NRC under 10 CFR part 61 or by an NRC Agreement State under equivalent State regulations, including State NARM licensing regulations for eligible NARM.

§ 266.340 What type of container must be used for disposal of exempted waste?

Your exempted waste must be placed in containers before it is disposed. The container must be:

- (a) A carbon steel drum; or
- (b) An alternative container with equivalent containment performance in the disposal environment as a carbon steel drum; or
- (c) A high integrity container as defined by NRC.

Notification

§ 266.345 Whom must you notify?

- (a) You must provide a one time notice to DEQ stating that you are claiming the transportation and disposal conditional exemption prior to the initial shipment of an exempted waste from your facility to a LLRWDF. Your dated written notice must include your facility name, address, phone number, and RCRA ID number, and be sent by certified delivery.
- (b) You must notify the LLRWDF receiving your exempted waste by certified delivery before shipment of each exempted waste. You can only ship the exempted waste after you have received the return receipt of your notice to the LLRWDF. This notification must include the following:

- (1) A statement that you have claimed the exemption for the waste.
- (2) A statement that the eligible waste meets applicable LDR treatment standards.
- (3) Your facility's name, address, and RCRA ID number.
- (4) The RCRA hazardous waste codes prior to the exemption of the waste streams.
- (5) A statement that the exempted waste must be placed in a container according to Sec. 266.340 prior to disposal in order for the waste to remain exempt under the transportation and disposal conditional exemption of subpart N of this part.
- (6) The manifest number of the shipment that will contain the exempted waste.
- (7) A certification that all the information provided is true, complete, and accurate. The statement must be signed by your authorized representative.

Recordkeeping

§ 266.350 What records must you keep at your facility and for how long?

In addition to those records required by your NRC or NRC Agreement State license, you must keep records as follows:

- (a) You must follow the applicable existing recordkeeping requirements under §§ 264.73, 265.73, and 268.7 of this rule to demonstrate that your waste has met LDR treatment standards prior to your claiming the exemption.
- (b) You must keep a copy of all notifications and return receipts required under §§ 266.355, and § 266.360 for three years after the exempted waste is sent for disposal.
- (c) You must keep a copy of all notifications and return receipts required under § 266.345(a) for three years after the last exempted waste is sent for disposal.
- (d) You must keep a copy of the notification and return receipt required under § 266.345(b) for three years after the exempted waste is sent for disposal.
- (e) If you are not already subject to NRC, or NRC Agreement State equivalent manifest and transportation regulations for the shipment of your waste, you must also keep all other documents related to tracking the exempted waste as required under 10 CFR 20.2006 or NRC Agreement State equivalent regulations, including applicable NARM requirements, in addition to the records specified in § 266.350(a) through (d).

Loss of Transportation and Disposal Conditional Exemption

§ 266.355 How could you lose the transportation and disposal conditional exemption for your waste and what actions must you take?

(a) Any waste will automatically lose the transportation and disposal exemption if you fail to manage it in accordance with all of the conditions specified in § 266.315.

(1) When you fail to meet any of the conditions specified in § 266.315 for any of your wastes, you must report to DEQ, in writing by certified delivery, within 30 days of learning of the failure. Your report must be signed by your authorized representative certifying that the information provided is true, accurate, and complete. This report must include:

- (i) The specific condition(s) that you failed to meet for the waste;
- (ii) A description of the waste (including the waste name, hazardous waste codes and

quantity) that lost the exemption; and

(iii) The date(s) on which you failed to meet the condition(s) for the waste.

(2) If the failure to meet any of the conditions may endanger human health or the environment, you must also immediately notify DEQ orally within 24 hours and follow up with a written notification within 5 days.

(b) DEQ may terminate your ability to claim a conditional exemption for your waste, or require you to meet additional conditions to claim a conditional exemption, for serious or repeated noncompliance with any requirement(s) of subsection N of this section.

§ 266.360 If you lose the transportation and disposal conditional exemption for a waste, can the exemption be reclaimed?

(a) You may reclaim the transportation and disposal exemption for a waste after you have received a return receipt confirming that DEQ has received your notification of the loss of the exemption specified in § 266.355(a) and if:

(1) You again meet the conditions specified in § 266.315 for the waste; and

(2) You send a notice, by certified delivery, to DEQ that you are reclaiming the exemption for the waste. Your notice must be signed by your authorized representative certifying that the information provided is true, accurate, and complete. The notice must:

(i) Explain the circumstances of each failure.

(ii) Certify that each failure that caused you to lose the exemption for the waste has been corrected and that you again meet all conditions for the waste as of the date you specify.

(iii) Describe plans you have implemented, listing the specific steps that you have taken, to ensure that conditions will be met in the future.

(iv) Include any other information you want us to consider when we review your notice reclaiming the exemption.

(b) DEQ may terminate a reclaimed conditional exemption if the Division finds that your claim is inappropriate based on factors including, but not limited to: you have failed to correct the problem; you explained the circumstances of the failure unsatisfactorily; or you failed to implement a plan with steps to prevent another failure to meet the conditions of § 266.315. In reviewing a reclaimed conditional exemption under this section, we may add conditions to the exemption to ensure that transportation and disposal activities will protect human health and the environment.

Appendices

Appendix I.-Tier I and Tier II Feed Rate and Emissions Screening Limits for Metals

Table I-A.-Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain [Values for urban areas]

| Terrain adjusted eff. stack ht. (m) | Antimony (g/hr) | Barium (g/hr) | Lead (g/hr) | Mercury (g/hr) | Silver (g/hr) | Thallium (g/hr) |
|--|----------------------------|--------------------------|------------------------|---------------------------|--------------------------|----------------------------|
|--|----------------------------|--------------------------|------------------------|---------------------------|--------------------------|----------------------------|

| | | | | | | |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| 4 | 6.0E + 01 | 1.0E + 04 | 1.8E + 01 | 6.0E + 01 | 6.0E + 02 | 6.0E + 01 |
| 6 | 6.8E + 01 | 1.1E + 04 | 2.0E + 01 | 6.8E + 01 | 6.8E + 02 | 6.8E + 01 |
| 8 | 7.6E + 01 | 1.3E + 04 | 2.3E + 01 | 7.6E + 01 | 7.6E + 02 | 7.6E + 01 |
| 10 | 8.6E + 01 | 1.4E + 04 | 2.6E + 01 | 8.6E + 01 | 8.6E + 02 | 8.6E + 01 |
| 12 | 9.6E + 01 | 1.7E + 04 | 3.0E + 01 | 9.6E + 01 | 9.6E + 02 | 9.6E + 01 |
| 14 | 1.1E + 02 | 1.8E + 04 | 3.4E + 01 | 1.1E + 02 | 1.1E + 03 | 1.1E + 02 |
| 16 | 1.3E + 02 | 2.1E + 04 | 3.6E + 01 | 1.3E + 02 | 1.3E + 03 | 1.3E + 02 |
| 18 | 1.4E + 02 | 2.4E + 04 | 4.3E + 01 | 1.4E + 02 | 1.4E + 03 | 1.4E + 02 |
| 20 | 1.6E + 02 | 2.7E + 04 | 4.6E + 01 | 1.6E + 02 | 1.6E + 03 | 1.6E + 02 |
| 22 | 1.8E + 02 | 3.0E + 04 | 5.4E + 01 | 1.8E + 02 | 1.8E + 03 | 1.8E + 02 |
| 24 | 2.0E + 02 | 3.4E + 04 | 6.0E + 01 | 2.0E + 02 | 2.0E + 03 | 2.0E + 02 |
| 26 | 2.3E + 02 | 3.9E + 04 | 6.8E + 01 | 2.3E + 02 | 2.3E + 03 | 2.3E + 02 |
| 28 | 2.6E + 02 | 4.3E + 04 | 7.8E + 01 | 2.6E + 02 | 2.6E + 03 | 2.6E + 02 |
| 30 | 3.0E + 02 | 5.0E + 04 | 9.0E + 01 | 3.0E + 02 | 3.0E + 03 | 3.0E + 02 |
| 35 | 4.0E + 02 | 6.6E + 04 | 1.1E + 02 | 4.0E + 02 | 4.0E + 03 | 4.0E + 02 |
| 40 | 4.6E + 02 | 7.8E + 04 | 1.4E + 02 | 4.6E + 02 | 4.6E + 03 | 4.6E + 02 |
| 45 | 6.0E + 02 | 1.0E + 05 | 1.8E + 02 | 6.0E + 02 | 6.0E + 03 | 6.0E + 02 |
| 50 | 7.8E + 02 | 1.3E + 05 | 2.3E + 02 | 7.8E + 02 | 7.8E + 03 | 7.8E + 02 |
| 55 | 9.6E + 02 | 1.7E + 05 | 3.0E + 02 | 9.6E + 02 | 9.6E + 03 | 9.6E + 02 |
| 60 | 1.2E + 03 | 2.0E + 05 | 3.6E + 02 | 1.2E + 03 | 1.2E + 04 | 1.2E + 03 |
| 65 | 1.5E + 03 | 2.5E + 05 | 4.3E + 02 | 1.5E + 03 | 1.5E + 04 | 1.5E + 03 |
| 70 | 1.7E + 03 | 2.8E + 05 | 5.0E + 02 | 1.7E + 03 | 1.7E + 04 | 1.7E + 03 |
| 75 | 1.9E + 03 | 3.2E + 05 | 5.8E + 02 | 1.9E + 03 | 1.9E + 04 | 1.9E + 03 |
| 80 | 2.2E + 03 | 3.6E + 05 | 6.4E + 02 | 2.2E + 03 | 2.2E + 04 | 2.2E + 03 |
| 85 | 2.5E + 03 | 4.0E + 05 | 7.6E + 02 | 2.5E + 03 | 2.5E + 04 | 2.5E + 03 |
| 90 | 2.8E + 03 | 4.6E + 05 | 8.2E + 02 | 2.8E + 03 | 2.8E + 04 | 2.8E + 03 |
| 95 | 3.2E + 03 | 5.4E + 05 | 9.6E + 02 | 3.2E + 03 | 3.2E + 04 | 3.2E + 03 |
| 100 | 3.6E + 03 | 6.0E + 05 | 1.1E + 03 | 3.6E + 03 | 3.6E + 04 | 3.6E + 03 |
| 105 | 4.0E + 03 | 6.8E + 05 | 1.2E + 03 | 4.0E + 03 | 4.0E + 04 | 4.0E + 03 |
| 110 | 4.6E + 03 | 7.8E + 05 | 1.4E + 03 | 4.6E + 03 | 4.6E + 04 | 4.6E + 03 |

| | | | | | | |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| 115 | 5.4E + 03 | 8.6E + 05 | 1.6E + 03 | 5.4E + 03 | 5.4E + 04 | 5.4E + 03 |
| 120 | 6.0E + 03 | 1.0E + 06 | 1.8E + 03 | 6.0E + 03 | 6.0E + 04 | 6.0E + 03 |

Table I-B.-Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain

| Terrain adjusted eff. stack ht. (m) | Antimony (g/hr) | Barium (g/hr) | Lead (g/hr) | Mercury (g/hr) | Silver (g/hr) | Thallium (g/hr) |
|--|----------------------------|--------------------------|------------------------|---------------------------|--------------------------|----------------------------|
| 4 | 3.1E + 01 | 5.2E + 03 | 9.4E + 00 | 3.1E + 01 | 3.1E + 02 | 3.1E + 01 |
| 6 | 3.6E + 01 | 6.0E + 03 | 1.1E + 01 | 3.6E + 01 | 3.6E + 02 | 3.6E + 01 |
| 8 | 4.0E + 01 | 6.8E + 03 | 1.2E + 01 | 4.0E + 01 | 4.0E + 02 | 4.0E + 01 |
| 10 | 4.6E + 01 | 7.8E + 03 | 1.4E + 01 | 4.6E + 01 | 4.6E + 02 | 4.6E + 01 |
| 12 | 5.8E + 01 | 9.6E + 03 | 1.7E + 01 | 5.8E + 01 | 5.8E + 02 | 5.8E + 01 |
| 14 | 6.8E + 01 | 1.1E + 04 | 2.1E + 01 | 6.8E + 01 | 6.8E + 02 | 6.8E + 01 |
| 16 | 8.6E + 01 | 1.4E + 04 | 2.6E + 01 | 8.6E + 01 | 8.6E + 02 | 8.6E + 01 |
| 18 | 1.1E + 02 | 1.8E + 04 | 3.2E + 01 | 1.1E + 02 | 1.1E + 03 | 1.1E + 02 |
| 20 | 1.3E + 02 | 2.2E + 04 | 4.0E + 01 | 1.3E + 02 | 1.3E + 03 | 1.3E + 02 |
| 22 | 1.7E + 02 | 2.8E + 04 | 5.0E + 01 | 1.7E + 02 | 1.7E + 03 | 1.7E + 02 |
| 24 | 2.2E + 02 | 3.6E + 04 | 6.4E + 01 | 2.2E + 02 | 2.2E + 03 | 2.2E + 02 |
| 26 | 2.8E + 02 | 4.6E + 04 | 8.2E + 01 | 2.8E + 02 | 2.8E + 03 | 2.8E + 02 |
| 28 | 3.5E + 02 | 5.8E + 04 | 1.0E + 02 | 3.5E + 02 | 3.5E + 03 | 3.5E + 02 |
| 30 | 4.3E + 02 | 7.6E + 04 | 1.3E + 02 | 4.3E + 02 | 4.3E + 03 | 4.3E + 02 |
| 35 | 7.2E + 02 | 1.2E + 05 | 2.1E + 02 | 7.2E + 02 | 7.2E + 03 | 7.2E + 02 |
| 40 | 1.1E + 03 | 1.8E + 05 | 3.2E + 02 | 1.1E + 03 | 1.1E + 04 | 1.1E + 03 |
| 45 | 1.5E + 03 | 2.5E + 05 | 4.6E + 02 | 1.5E + 03 | 1.5E + 04 | 1.5E + 03 |
| 50 | 2.0E + 03 | 3.3E + 05 | 6.0E + 02 | 2.0E + 03 | 2.0E + 04 | 2.0E + 03 |
| 55 | 2.6E + 03 | 4.4E + 05 | 7.8E + 02 | 2.6E + 03 | 2.6E + 04 | 2.6E + 03 |
| 60 | 3.4E + 03 | 5.8E + 05 | 1.0E + 03 | 3.4E + 03 | 3.4E + 04 | 3.4E + 03 |
| 65 | 4.6E + 03 | 7.6E + 05 | 1.4E + 03 | 4.6E + 03 | 4.6E + 04 | 4.6E + 03 |

| | | | | | | |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| 70 | 5.4E + 03 | 9.0E + 05 | 1.6E + 03 | 5.4E + 03 | 5.4E + 04 | 5.4E + 03 |
| 75 | 6.4E + 03 | 1.1E + 06 | 1.9E + 03 | 6.4E + 03 | 6.4E + 04 | 6.4E + 03 |
| 80 | 7.6E + 03 | 1.3E + 06 | 2.3E + 03 | 7.6E + 03 | 7.6E + 04 | 7.6E + 03 |
| 85 | 9.4E + 03 | 1.5E + 06 | 2.8E + 03 | 9.4E + 03 | 9.4E + 04 | 9.4E + 03 |
| 90 | 1.1E + 04 | 1.8E + 06 | 3.3E + 03 | 1.1E + 04 | 1.1E + 05 | 1.1E + 04 |
| 95 | 1.3E + 04 | 2.2E + 06 | 3.9E + 03 | 1.3E + 04 | 1.3E + 05 | 1.3E + 04 |
| 100 | 1.5E + 04 | 2.6E + 06 | 4.6E + 03 | 1.5E + 04 | 1.5E + 05 | 1.5E + 04 |
| 105 | 1.8E + 04 | 3.0E + 06 | 5.4E + 03 | 1.8E + 04 | 1.8E + 05 | 1.8E + 04 |
| 110 | 2.2E + 04 | 3.6E + 06 | 6.6E + 03 | 2.2E + 04 | 2.2E + 05 | 2.2E + 04 |
| 115 | 2.6E + 04 | 4.4E + 06 | 7.8E + 03 | 2.6E + 04 | 2.6E + 05 | 2.6E + 04 |
| 120 | 3.1E + 04 | 5.0E + 06 | 9.2E + 03 | 3.1E + 04 | 3.1E + 05 | 3.1E + 04 |

Table I-C.-Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Complex Terrain
Values for urban and rural areas

| Terrain adjusted eff. stack ht. (m) | Antimony (g/hr) | Barium (g/hr) | Lead (g/hr) | Mercury (g/hr) | Silver (g/hr) | Thallium (g/hr) |
|--|------------------------|----------------------|--------------------|-----------------------|----------------------|------------------------|
| 4 | 1.4E + 01 | 2.4E + 03 | 4.3E + 00 | 1.4E + 01 | 1.4E + 02 | 1.4E + 01 |
| 6 | 2.1E + 01 | 3.5E + 03 | 6.2E + 00 | 2.1E + 01 | 2.1E + 02 | 2.1E + 01 |
| 8 | 3.0E + 01 | 5.0E + 03 | 9.2E + 00 | 3.0E + 01 | 3.0E + 02 | 3.0E + 01 |
| 10 | 4.3E + 01 | 7.6E + 03 | 1.3E + 01 | 4.3E + 01 | 4.3E + 02 | 4.3E + 01 |
| 12 | 5.4E + 01 | 9.0E + 03 | 1.7E + 01 | 5.4E + 01 | 5.4E + 02 | 5.4E + 01 |
| 14 | 6.8E + 01 | 1.1E + 04 | 2.0E + 01 | 6.8E + 01 | 6.8E + 02 | 6.8E + 01 |
| 16 | 7.8E + 01 | 1.3E + 04 | 2.4E + 01 | 7.8E + 01 | 7.8E + 02 | 7.8E + 01 |
| 18 | 8.6E + 01 | 1.4E + 04 | 2.6E + 01 | 8.6E + 01 | 8.6E + 02 | 8.6E + 01 |
| 20 | 9.6E + 01 | 1.6E + 04 | 2.9E + 01 | 9.6E + 01 | 9.6E + 02 | 9.6E + 01 |
| 22 | 1.0E + 02 | 1.8E + 04 | 3.2E + 01 | 1.0E + 02 | 1.0E + 03 | 1.0E + 02 |
| 24 | 1.2E + 02 | 1.9E + 04 | 3.5E + 01 | 1.2E + 02 | 1.2E + 03 | 1.2E + 02 |

| | | | | | | |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| 26 | 1.3E + 02 | 2.2E + 04 | 3.6E + 01 | 1.3E + 02 | 1.3E + 03 | 1.3E + 02 |
| 28 | 1.4E + 02 | 2.4E + 04 | 4.3E + 01 | 1.4E + 02 | 1.4E + 03 | 1.4E + 02 |
| 30 | 1.6E + 02 | 2.7E + 04 | 4.6E + 01 | 1.6E + 02 | 1.6E + 03 | 1.6E + 02 |
| 35 | 2.0E + 02 | 3.3E + 04 | 5.8E + 01 | 2.0E + 02 | 2.0E + 03 | 2.0E + 02 |
| 40 | 2.4E + 02 | 4.0E + 04 | 7.2E + 01 | 2.4E + 02 | 2.4E + 03 | 2.4E + 02 |
| 45 | 3.0E + 02 | 5.0E + 04 | 9.0E + 01 | 3.0E + 02 | 3.0E + 03 | 3.0E + 02 |
| 50 | 3.6E + 02 | 6.0E + 04 | 1.1E + 02 | 3.6E + 02 | 3.6E + 03 | 3.6E + 02 |
| 55 | 4.6E + 02 | 7.6E + 04 | 1.4E + 02 | 4.6E + 02 | 4.6E + 03 | 4.6E + 02 |
| 60 | 5.8E + 02 | 9.4E + 04 | 1.7E + 02 | 5.8E + 02 | 5.8E + 03 | 5.8E + 02 |
| 65 | 6.8E + 02 | 1.1E + 05 | 2.1E + 02 | 6.8E + 02 | 6.8E + 03 | 6.8E + 02 |
| 70 | 7.8E + 02 | 1.3E + 05 | 2.4E + 02 | 7.8E + 02 | 7.8E + 03 | 7.8E + 02 |
| 75 | 8.6E + 02 | 1.4E + 05 | 2.6E + 02 | 8.6E + 02 | 8.6E + 03 | 8.6E + 02 |
| 80 | 9.6E + 02 | 1.6E + 05 | 2.9E + 02 | 9.6E + 02 | 9.6E + 03 | 9.6E + 02 |
| 85 | 1.1E + 03 | 1.8E + 05 | 3.3E + 02 | 1.1E + 03 | 1.1E + 04 | 1.1E + 03 |
| 90 | 1.2E + 03 | 2.0E + 05 | 3.6E + 02 | 1.2E + 03 | 1.2E + 04 | 1.2E + 03 |
| 95 | 1.4E + 03 | 2.3E + 05 | 4.0E + 02 | 1.4E + 03 | 1.4E + 04 | 1.4E + 03 |
| 100 | 1.5E + 03 | 2.6E + 05 | 4.6E + 02 | 1.5E + 03 | 1.5E + 04 | 1.5E + 03 |
| 105 | 1.7E + 03 | 2.8E + 05 | 5.0E + 02 | 1.7E + 03 | 1.7E + 04 | 1.7E + 03 |
| 110 | 1.9E + 03 | 3.2E + 05 | 5.8E + 02 | 1.9E + 03 | 1.9E + 04 | 1.9E + 03 |
| 115 | 2.1E + 03 | 3.6E + 05 | 6.4E + 02 | 2.1E + 03 | 2.1E + 04 | 2.1E + 03 |
| 120 | 2.4E + 03 | 4.0E + 05 | 7.2E + 02 | 2.4E + 03 | 2.4E + 04 | 2.4E + 03 |

Table I-D.-Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Noncomplex Terrain

| Values for use in urban areas | | | | | Values for use in rural areas | | | |
|-------------------------------|----------------|----------------|-----------------|------------------|-------------------------------|----------------|-----------------|------------------|
| Terrain adjusted | Arsenic (g/hr) | Cadmium (g/hr) | Chromium (g/hr) | Beryllium (g/hr) | Arsenic (g/hr) | Cadmium (g/hr) | Chromium (g/hr) | Beryllium (g/hr) |

| eff. stack ht. (m) | | | | | | | | |
|-----------------------|--------------|-----------|-----------|-----------|--------------|-----------|-----------|-----------|
| 4 | 4.6E-01 | 1.1E + 00 | 1.7E-01 | 8.2E-01 | 2.4E-01 | 5.8E-01 | 8.6E-02 | 4.3E-01 |
| 6 | 5.4E-01 | 1.3E + 00 | 1.9E-01 | 9.4E-01 | 2.8E-01 | 6.6E-01 | 1.0E-01 | 5.0E-01 |
| 8 | 6.0E-01 | 1.4E + 00 | 2.2E-01 | 1.1E + 00 | 3.2E-01 | 7.6E-01 | 1.1E-01 | 5.6E-01 |
| 10 | 6.8E-01 | 1.6E + 00 | 2.4E-01 | 1.2E + 00 | 3.6E-01 | 8.6E-01 | 1.3E-01 | 6.4E-01 |
| 12 | 7.6E-01 | 1.8E + 00 | 2.7E-01 | 1.4E + 00 | 4.3E-01 | 1.1E + 00 | 1.6E-01 | 7.8E-01 |
| 14 | 8.6E-01 | 2.1E + 00 | 3.1E-01 | 1.5E + 00 | 5.4E-01 | 1.3E + 00 | 2.0E-01 | 9.6E-01 |
| 16 | 9.6E-01 | 2.3E + 00 | 3.5E-01 | 1.7E + 00 | 6.8E-01 | 1.6E + 00 | 2.4E-01 | 1.2E + 00 |
| 18 | 1.1E + 00 | 2.6E + 00 | 4.0E-01 | 2.0E + 00 | 8.2E-01 | 2.0E + 00 | 3.0E-01 | 1.5E + 00 |
| 20 | 1.2E + 00 | 3.0E + 00 | 4.4E-01 | 2.2E + 00 | 1.0E + 00 | 2.5E + 00 | 3.7E-01 | 1.9E + 00 |
| 22 | 1.4E + 00 | 3.4E + 00 | 5.0E-01 | 2.5E + 00 | 1.3E + 00 | 3.2E + 00 | 4.8E-01 | 2.4E + 00 |
| 24 | 1.6E + 00 | 3.9E + 00 | 5.8E-01 | 2.8E + 00 | 1.7E + 00 | 4.0E + 00 | 6.0E-01 | 3.0E + 00 |
| 26 | 1.8E + 00 | 4.3E + 00 | 6.4E-01 | 3.2E + 00 | 2.1E + 00 | 5.0E + 00 | 7.6E-01 | 3.9E + 00 |
| 28 | 2.0E + 00 | 4.8E + 00 | 7.2E-01 | 3.6E + 00 | 2.7E + 00 | 6.4E + 00 | 9.8E-01 | 5.0E + 00 |
| 30 | 2.3E + 00 | 5.4E + 00 | 8.2E-01 | 4.0E + 00 | 3.5E + 00 | 8.2E + 00 | 1.2E + 00 | 6.2E + 00 |
| 35 | 3.0E + 00 | 6.8E + 00 | 1.0E + 00 | 5.4E + 00 | 5.4E + 00 | 1.3E + 01 | 1.9E + 00 | 9.6E + 00 |
| 40 | 3.6E + 00 | 9.0E + 00 | 1.3E + 00 | 6.8E + 00 | 8.2E + 00 | 2.0E + 01 | 3.0E + 00 | 1.5E + 01 |
| 45 | 4.6E + 00 | 1.1E + 01 | 1.7E + 00 | 8.6E + 00 | 1.1E + 01 | 2.8E + 01 | 4.2E + 00 | 2.1E + 01 |
| 50 | 6.0E + 00 | 1.4E + 01 | 2.2E + 00 | 1.1E + 01 | 1.5E + 01 | 3.7E + 01 | 5.4E + 00 | 2.8E + 01 |
| 55 | 7.6E + 00 | 1.8E + 01 | 2.7E + 00 | 1.4E + 01 | 2.0E + 01 | 5.0E + 01 | 7.2E + 00 | 3.6E + 01 |
| 60 | 9.4E + 00 | 2.2E + 01 | 3.4E + 00 | 1.7E + 01 | 2.7E + 01 | 6.4E + 01 | 9.6E + 00 | 4.8E + 01 |

| | | | | | | | | |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 65 | 1.1E + 01 | 2.8E + 01 | 4.2E + 00 | 2.1E + 01 | 3.6E + 01 | 8.6E + 01 | 1.3E + 01 | 6.4E + 01 |
| 70 | 1.3E + 01 | 3.1E + 01 | 4.6E + 00 | 2.4E + 01 | 4.3E + 01 | 1.0E + 02 | 1.5E + 01 | 7.6E + 01 |
| 75 | 1.5E + 01 | 3.6E + 01 | 5.4E + 00 | 2.7E + 01 | 5.0E + 01 | 1.2E + 02 | 1.8E + 01 | 9.0E + 01 |
| 80 | 1.7E + 01 | 4.0E + 01 | 6.0E + 00 | 3.0E + 01 | 6.0E + 01 | 1.4E + 02 | 2.2E + 01 | 1.1E + 02 |
| 85 | 1.9E + 01 | 4.6E + 01 | 6.8E + 00 | 3.4E + 01 | 7.2E + 01 | 1.7E + 02 | 2.6E + 01 | 1.3E + 02 |
| 90 | 2.2E + 01 | 5.0E + 01 | 7.8E + 00 | 3.9E + 01 | 8.6E + 01 | 2.0E + 02 | 3.0E + 01 | 1.5E + 02 |
| 95 | 2.5E + 01 | 5.8E + 01 | 9.0E + 00 | 4.4E + 01 | 1.0E + 02 | 2.4E + 02 | 3.6E + 01 | 1.8E + 02 |
| 100 | 2.8E + 01 | 6.8E + 01 | 1.0E + 01 | 5.0E + 01 | 1.2E + 02 | 2.9E + 02 | 4.3E + 01 | 2.2E + 02 |
| 105 | 3.2E + 01 | 7.6E + 01 | 1.1E + 01 | 5.6E + 01 | 1.4E + 02 | 3.4E + 02 | 5.0E + 01 | 2.6E + 02 |
| 110 | 3.6E + 01 | 8.6E + 01 | 1.3E + 01 | 6.4E + 01 | 1.7E + 02 | 4.0E + 02 | 6.0E + 01 | 3.0E + 02 |
| 115 | 4.0E + 01 | 9.6E + 01 | 1.5E + 01 | 7.2E + 01 | 2.0E + 02 | 4.8E + 02 | 7.2E + 01 | 3.6E + 02 |
| 120 | 4.6E + 01 | 1.1E + 02 | 1.7E + 01 | 8.2E + 01 | 2.4E + 02 | 5.8E + 02 | 8.6E + 01 | 4.3E + 02 |

Table I-E.-Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Complex Terrain

| Values for use in urban and rural areas | | | | |
|---|-------------------|-------------------|--------------------|---------------------|
| Terrain adjusted eff. stack ht. (m) | Arsenic (g/hr) | Cadmium (g/hr) | Chromium (g/hr) | Beryllium (g/hr) |

| | | | | |
|-----|-----------|-----------|-----------|-----------|
| 4 | 1.1E-01 | 2.6E-01 | 4.0E-02 | 2.0E-01 |
| 6 | 1.6E-01 | 3.9E-01 | 5.8E-02 | 2.9E-01 |
| 8 | 2.4E-01 | 5.8E-01 | 8.6E-02 | 4.3E-01 |
| 10 | 3.5E-01 | 8.2E-01 | 1.3E-01 | 6.2E-01 |
| 12 | 4.3E-01 | 1.0E + 00 | 1.5E-01 | 7.6E-01 |
| 14 | 5.0E-01 | 1.3E + 00 | 1.9E-01 | 9.4E-01 |
| 16 | 6.0E-01 | 1.4E + 00 | 2.2E-01 | 1.1E + 00 |
| 18 | 6.8E-01 | 1.6E + 00 | 2.4E-01 | 1.2E + 00 |
| 20 | 7.6E-01 | 1.8E + 00 | 2.7E-01 | 1.3E + 00 |
| 22 | 8.2E-01 | 1.9E + 00 | 3.0E-01 | 1.5E + 00 |
| 24 | 9.0E-01 | 2.1E + 00 | 3.3E-01 | 1.6E + 00 |
| 26 | 1.0E + 00 | 2.4E + 00 | 3.6E-01 | 1.8E + 00 |
| 28 | 1.1E + 00 | 2.7E + 00 | 4.0E-01 | 2.0E + 00 |
| 30 | 1.2E + 00 | 3.0E + 00 | 4.4E-01 | 2.2E + 00 |
| 35 | 1.5E + 00 | 3.7E + 00 | 5.4E-01 | 2.7E + 00 |
| 40 | 1.9E + 00 | 4.6E + 00 | 6.8E-01 | 3.4E + 00 |
| 45 | 2.4E + 00 | 5.4E + 00 | 8.4E-01 | 4.2E + 00 |
| 50 | 2.9E + 00 | 6.8E + 00 | 1.0E + 00 | 5.0E + 00 |
| 55 | 3.5E + 00 | 8.4E + 00 | 1.3E + 00 | 6.4E + 00 |
| 60 | 4.3E + 00 | 1.0E + 01 | 1.5E + 00 | 7.8E + 00 |
| 65 | 5.4E + 00 | 1.3E + 01 | 1.9E + 00 | 9.6E + 00 |
| 70 | 6.0E + 00 | 1.4E + 01 | 2.2E + 00 | 1.1E + 01 |
| 75 | 6.8E + 00 | 1.6E + 01 | 2.4E + 00 | 1.2E + 01 |
| 80 | 7.6E + 00 | 1.8E + 01 | 2.7E + 00 | 1.3E + 01 |
| 85 | 8.2E + 00 | 2.0E + 01 | 3.0E + 00 | 1.5E + 01 |
| 90 | 9.4E + 00 | 2.3E + 01 | 3.4E + 00 | 1.7E + 01 |
| 95 | 1.0E + 01 | 2.5E + 01 | 4.0E + 00 | 1.9E + 01 |
| 100 | 1.2E + 01 | 2.8E + 01 | 4.3E + 00 | 2.1E + 01 |
| 105 | 1.3E + 01 | 3.2E + 01 | 4.8E + 00 | 2.4E + 01 |
| 110 | 1.5E + 01 | 3.5E + 01 | 5.4E + 00 | 2.7E + 01 |

| | | | | |
|-----|-----------|-----------|-----------|-----------|
| 115 | 1.7E + 01 | 4.0E + 01 | 6.0E + 00 | 3.0E + 01 |
| 120 | 1.9E + 01 | 4.4E + 01 | 6.4E + 00 | 3.3E + 01 |

Appendix II-Tier I Feed Rate Screening Limits for Total Chlorine

| Terrain-adjusted effective stack height (m) | Noncomplex Terrain | | Complex Terrain |
|---|--------------------|--------------|-----------------|
| | Urban (g/hr) | Rural (g/hr) | (g/hr) |
| 4 | 8.2E + 01 | 4.2E + 01 | 1.9E + 01 |
| 6 | 9.1E + 01 | 4.8E + 01 | 2.8E + 01 |
| 8 | 1.0E + 02 | 5.3E + 01 | 4.1E + 01 |
| 10 | 1.2E + 02 | 6.2E + 01 | 5.8E + 01 |
| 12 | 1.3E + 02 | 7.7E + 01 | 7.2E + 01 |
| 14 | 1.5E + 02 | 9.1E + 01 | 9.1E + 01 |
| 16 | 1.7E + 02 | 1.2E + 02 | 1.1E + 02 |
| 18 | 1.9E + 02 | 1.4E + 02 | 1.2E + 02 |
| 20 | 2.1E + 02 | 1.8E + 02 | 1.3E + 02 |
| 22 | 2.4E + 02 | 2.3E + 02 | 1.4E + 02 |
| 24 | 2.7E + 02 | 2.9E + 02 | 1.6E + 02 |
| 26 | 3.1E + 02 | 3.7E + 02 | 1.7E + 02 |
| 28 | 3.5E + 02 | 4.7E + 02 | 1.9E + 02 |
| 30 | 3.9E + 02 | 5.8E + 02 | 2.1E + 02 |
| 35 | 5.3E + 02 | 9.6E + 02 | 2.6E + 02 |
| 40 | 6.2E + 02 | 1.4E + 03 | 3.3E + 02 |
| 45 | 8.2E + 02 | 2.0E + 03 | 4.0E + 02 |
| 50 | 1.1E + 03 | 2.6E + 03 | 4.8E + 02 |
| 55 | 1.3E + 03 | 3.5E + 03 | 6.2E + 02 |
| 60 | 1.6E + 03 | 4.6E + 03 | 7.7E + 02 |
| 65 | 2.0E + 03 | 6.2E + 03 | 9.1E + 02 |
| 70 | 2.3E + 03 | 7.2E + 03 | 1.1E + 03 |
| 75 | 2.5E + 03 | 8.6E + 03 | 1.2E + 03 |

| | | | |
|-----|-----------|-----------|-----------|
| 80 | 2.9E + 03 | 1.0E + 04 | 1.3E + 03 |
| 85 | 3.3E + 03 | 1.2E + 04 | 1.4E + 03 |
| 90 | 3.7E + 03 | 1.4E + 04 | 1.6E + 03 |
| 95 | 4.2E + 03 | 1.7E + 04 | 1.8E + 03 |
| 100 | 4.8E + 03 | 2.1E + 04 | 2.0E + 03 |
| 105 | 5.3E + 03 | 2.4E + 04 | 2.3E + 03 |
| 110 | 6.2E + 03 | 2.9E + 04 | 2.5E + 03 |
| 115 | 7.2E + 03 | 3.5E + 04 | 2.8E + 03 |
| 120 | 8.2E + 03 | 4.1E + 04 | 3.2E + 03 |

Appendix III-Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride

| Terrain-adjusted effective stack height (m) | Noncomplex terrain | | | | Complex terrain | |
|---|------------------------|------------|------------------------|------------|---|------------|
| | Values for urban areas | | Values for rural areas | | Values for use in urban and rural areas | |
| | Cl ₂ (g/hr) | HCl (g/hr) | Cl ₂ (g/hr) | HCl (g/hr) | Cl ₂ (g/hr) | HCl (g/hr) |
| 4 | 8.2E + 01 | 1.4E + 03 | 4.2E + 01 | 7.3E + 02 | 1.9E + 01 | 3.3E + 02 |
| 6 | 9.1E + 01 | 1.6E + 03 | 4.8E + 01 | 8.3E + 02 | 2.8E + 01 | 4.9E + 02 |
| 8 | 1.0E + 02 | 1.8E + 03 | 5.3E + 01 | 9.2E + 02 | 4.1E + 01 | 7.1E + 02 |
| 10 | 1.2E + 02 | 2.0E + 03 | 6.2E + 01 | 1.1E + 03 | 5.8E + 01 | 1.0E + 03 |
| 12 | 1.3E + 02 | 2.3E + 03 | 7.7E + 01 | 1.3E + 03 | 7.2E + 01 | 1.3E + 03 |
| 14 | 1.5E + 02 | 2.6E + 03 | 9.1E + 01 | 1.6E + 03 | 9.1E + 01 | 1.6E + 03 |
| 16 | 1.7E + 02 | 2.9E + 03 | 1.2E + 02 | 2.0E + 03 | 1.1E + 02 | 1.8E + 03 |
| 18 | 1.9E + 02 | 3.3E + 03 | 1.4E + 02 | 2.5E + 03 | 1.2E + 02 | 2.0E + 03 |

| | | | | | | |
|----|-----------|-----------|-----------|-----------|-----------|-----------|
| | 02 | | 02 | 03 | | |
| 20 | 2.1E + 02 | 3.7E + 03 | 1.8E + 02 | 3.1E + 03 | 1.3E + 02 | 2.3E + 03 |
| 22 | 2.4E + 02 | 4.2E + 03 | 2.3E + 02 | 3.9E + 03 | 1.4E + 02 | 2.4E + 03 |
| 24 | 2.7E + 02 | 4.8E + 03 | 2.9E + 02 | 5.0E + 03 | 1.6E + 02 | 2.8E + 03 |
| 26 | 3.1E + 02 | 5.4E + 03 | 3.7E + 02 | 6.5E + 03 | 1.7E + 02 | 3.0E + 03 |
| 28 | 3.5E + 02 | 6.0E + 03 | 4.7E + 02 | 8.1E + 03 | 1.9E + 02 | 3.4E + 03 |
| 30 | 3.9E + 02 | 6.9E + 03 | 5.8E + 02 | 1.0E + 04 | 2.1E + 02 | 3.7E + 03 |
| 35 | 5.3E + 02 | 9.2E + 03 | 9.6E + 02 | 1.7E + 04 | 2.6E + 02 | 4.6E + 03 |
| 40 | 6.2E + 02 | 1.1E + 04 | 1.4E + 03 | 2.5E + 04 | 3.3E + 02 | 5.7E + 03 |
| 45 | 8.2E + 02 | 1.4E + 04 | 2.0E + 03 | 3.5E + 04 | 4.0E + 02 | 7.0E + 03 |
| 50 | 1.1E + 03 | 1.8E + 04 | 2.6E + 03 | 4.6E + 04 | 4.8E + 02 | 8.4E + 03 |
| 55 | 1.3E + 03 | 2.3E + 04 | 3.5E + 03 | 6.1E + 04 | 6.2E + 02 | 1.1E + 04 |
| 60 | 1.6E + 03 | 2.9E + 04 | 4.6E + 03 | 8.1E + 04 | 7.7E + 02 | 1.3E + 04 |
| 65 | 2.0E + 03 | 3.4E + 04 | 6.2E + 03 | 1.1E + 05 | 9.1E + 02 | 1.6E + 04 |
| 70 | 2.3E + 03 | 3.9E + 04 | 7.2E + 03 | 1.3E + 05 | 1.1E + 03 | 1.8E + 04 |
| 75 | 2.5E + 03 | 4.5E + 04 | 8.6E + 03 | 1.5E + 05 | 1.2E + 03 | 2.0E + 04 |
| 80 | 2.9E + 03 | 5.0E + 04 | 1.0E + 04 | 1.8E + 05 | 1.3E + 03 | 2.3E + 04 |
| 85 | 3.3E + 03 | 5.8E + 04 | 1.2E + 04 | 2.2E + 05 | 1.4E + 03 | 2.5E + 04 |
| 90 | 3.7E + | 6.6E + 04 | 1.4E + | 2.5E + | 1.6E + 03 | 2.9E + 04 |

| | | | | | | |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| | 03 | | 04 | 05 | | |
| 95 | 4.2E + 03 | 7.4E + 04 | 1.7E + 04 | 3.0E + 05 | 1.8E + 03 | 3.2E + 04 |
| 100 | 4.8E + 03 | 8.4E + 04 | 2.1E + 04 | 3.6E + 05 | 2.0E + 03 | 3.5E + 04 |
| 105 | 5.3E + 03 | 9.2E + 04 | 2.4E + 04 | 4.3E + 05 | 2.3E + 03 | 3.9E + 04 |
| 110 | 6.2E + 03 | 1.1E + 05 | 2.9E + 04 | 5.1E + 05 | 2.5E + 03 | 4.5E + 04 |
| 115 | 7.2E + 03 | 1.3E + 05 | 3.5E + 04 | 6.1E + 05 | 2.8E + 03 | 5.0E + 04 |
| 120 | 8.2E + 03 | 1.4E + 05 | 4.1E + 04 | 7.2E + 05 | 3.2E + 03 | 5.6E + 04 |

Appendix IV-Reference Air Concentrations*

| Constituent | CAS No. | RAC (ug/m ³) |
|--------------------|------------|--------------------------|
| Acetaldehyde | 75-07-0 | 10 |
| Acetonitrile | 75-05-8 | 10 |
| Acetophenone | 98-86-2 | 100 |
| Acrolein | 107-02-8 | 20 |
| Aldicarb | 116-06-3 | 1 |
| Aluminum Phosphide | 20859-73-8 | 0.3 |
| Allyl Alcohol | 107-18-6 | 5 |
| Antimony | 7440-36-0 | 0.3 |
| Barium | 7440-39-3 | 50 |
| Barium Cyanide | 542-62-1 | 50 |
| Bromomethane | 74-83-9 | 0.8 |
| Calcium Cyanide | 592-01-8 | 30 |
| Carbon Disulfide | 75-15-0 | 200 |
| Chloral | 75-87-6 | 2 |

| | | |
|---------------------------|------------|------|
| Chlorine (free) | | 0.4 |
| 2-Chloro-1,3-butadiene | 126-99-8 | 3 |
| Chromium III | 16065-83-1 | 1000 |
| Copper Cyanide | 544-92-3 | 5 |
| Cresols | 1319-77-3 | 50 |
| Cumene | 98-82-8 | 1 |
| Cyanide (free) | 57-12-15 | 20 |
| Cyanogen | 460-19-5 | 30 |
| Cyanogen Bromide | 506-68-3 | 80 |
| Di-n-butyl Phthalate | 84-74-2 | 100 |
| o-Dichlorobenzene | 95-50-1 | 10 |
| p-Dichlorobenzene | 106-46-7 | 10 |
| Dichlorodifluoromethane | 75-71-8 | 200 |
| 2,4-Dichlorophenol | 120-83-2 | 3 |
| Diethyl Phthalate | 84-66-2 | 800 |
| Dimethoate | 60-51-5 | 0.8 |
| 2,4-Dinitrophenol | 51-28-5 | 2 |
| Dinoseb | 88-85-7 | 0.9 |
| Diphenylamine | 122-39-4 | 20 |
| Endosulfan | 115-29-1 | 0.05 |
| Endrin | 72-20-8 | 0.3 |
| Fluorine | 7782-41-4 | 50 |
| Formic Acid | 64-18-6 | 2000 |
| Glycidyaldehyde | 765-34-4 | 0.3 |
| Hexachlorocyclopentadiene | 77-47-4 | 5 |
| Hexachlorophene | 70-30-4 | 0.3 |
| Hydrocyanic Acid | 74-90-8 | 20 |
| Hydrogen Chloride | 7647-01-1 | 7 |
| Hydrogen Sulfide | 7783-06-4 | 3 |
| Isobutyl Alcohol | 78-83-1 | 300 |

| | | |
|----------------------------|------------|-------|
| Lead | 7439-92-1 | 0.09 |
| Maleic Anhydride | 108-31-6 | 100 |
| Mercury | 7439-97-6 | 0.3 |
| Methacrylonitrile | 126-98-7 | 0.1 |
| Methomyl | 16752-77-5 | 20 |
| Methoxychlor | 72-43-5 | 50 |
| Methyl Chlorocarbonate | 79-22-1 | 1000 |
| Methyl Ethyl Ketone | 78-93-3 | 80 |
| Methyl Parathion | 298-00-0 | 0.3 |
| Nickel Cyanide | 557-19-7 | 20 |
| Nitric Oxide | 10102-43-9 | 100 |
| Nitrobenzene | 98-95-3 | 0.8 |
| Pentachlorobenzene | 608-93-5 | 0.8 |
| Pentachlorophenol | 87-86-5 | 30 |
| Phenol | 108-95-2 | 30 |
| M-Phenylenediamine | 108-45-2 | 5 |
| Phenylmercuric Acetate | 62-38-4 | 0.075 |
| Phosphine | 7803-51-2 | 0.3 |
| Phthalic Anhydride | 85-44-9 | 2000 |
| Potassium Cyanide | 151-50-8 | 50 |
| Potassium Silver Cyanide | 506-61-6 | 200 |
| Pyridine | 110-86-1 | 1 |
| Selenious Acid | 7783-60-8 | 3 |
| Selenourea | 630-10-4 | 5 |
| Silver | 7440-22-4 | 3 |
| Silver Cyanide | 506-64-9 | 100 |
| Sodium Cyanide | 143-33-9 | 30 |
| Strychnine | 57-24-9 | 0.3 |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.3 |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 30 |

| | | |
|----------------------------|------------|--------|
| Tetraethyl Lead | 78-00-2 | 0.0001 |
| Tetrahydrofuran | 109-99-9 | 10 |
| Thallic Oxide | 1314-32-5 | 0.3 |
| Thallium | 7440-28-0 | 0.5 |
| Thallium (I) Acetate | 563-68-8 | 0.5 |
| Thallium (I) Carbonate | 6533-73-9 | 0.3 |
| Thallium (I) Chloride | 7791-12-0 | 0.3 |
| Thallium (I) Nitrate | 10102-45-1 | 0.5 |
| Thallium Selenite | 12039-52-0 | 0.5 |
| Thallium (I) Sulfate | 7446-18-6 | 0.075 |
| Thiram | 137-26-8 | 5 |
| Toluene | 108-88-3 | 300 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 20 |
| Trichloromonofluoromethane | 75-69-4 | 300 |
| 2,4,5-Trichlorophenol | 95-95-4 | 100 |
| Vanadium Pentoxide | 1314-62-1 | 20 |
| Warfarin | 81-81-2 | 0.3 |
| Xylenes | 1330-20-7 | 80 |
| Zinc Cyanide | 557-21-1 | 50 |
| Zinc Phosphide | 1314-84-7 | 0.3 |

*FOOTNOTE: *The RAC for other appendix VIII Section 261 constituents not listed herein or in appendix V of this part is 0.1 ug/m³.*

Appendix V-Risk Specific Doses (10⁻⁵)

| Constituent | CAS No. | Unit risk (m ³ /μg) | RsD (μg/m ³) |
|-----------------------------|-----------|--------------------------------|--------------------------|
| Acrylamide | 79-06-1 | 1.3E-03 | 7.7E-03 |
| Acrylonitrile | 107-13-1 | 6.8E-05 | 1.5E-01 |
| Aldrin | 309-00-2 | 4.9E-03 | 2.0E-03 |
| Aniline | 62-53-3 | 7.4E-06 | 1.4E + 00 |
| Arsenic | 7440-38-2 | 4.3E-03 | 2.3E-03 |
| Benz(a)anthracene | 56-55-3 | 8.9E-04 | 1.1E-02 |
| Benzene | 71-43-2 | 8.3E-06 | 1.2E + 00 |
| Benzidine | 92-87-5 | 6.7E-02 | 1.5E-04 |
| Benzo(a)pyrene | 50-32-8 | 3.3E-03 | 3.0E-03 |
| Beryllium | 7440-41-7 | 2.4E-03 | 4.2E-03 |
| Bis(2-chloroethyl)ether | 111-44-4 | 3.3E-04 | 3.0E-02 |
| Bis(chloromethyl)ether | 542-88-1 | 6.2E-02 | 1.6E-04 |
| Bis(2-ethylhexyl)-phthalate | 117-81-7 | 2.4E-07 | 4.2E + 01 |
| 1,3-Butadiene | 106-99-0 | 2.8E-04 | 3.6E-02 |
| Cadmium | 7440-43-9 | 1.8E-03 | 5.6E-03 |
| Carbon Tetrachloride | 56-23-5 | 1.5E-05 | 6.7E-01 |
| Chlordane | 57-74-9 | 3.7E-04 | 2.7E-02 |
| Chloroform | 67-66-3 | 2.3E-05 | 4.3E-01 |
| Chloromethane | 74-87-3 | 3.6E-06 | 2.8E + 00 |
| Chromium VI | 7440-47-3 | 1.2E-02 | 8.3E-04 |
| DDT | 50-29-3 | 9.7E-05 | 1.0E-01 |
| Dibenz(a,h)anthracene | 53-70-3 | 1.4E-02 | 7.1E-04 |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 6.3E-03 | 1.6E-03 |
| 1,2-Dibromoethane | 106-93-4 | 2.2E-04 | 4.5E-02 |
| 1,1-Dichloroethane | 75-34-3 | 2.6E-05 | 3.8E-01 |
| 1,2-Dichloroethane | 107-06-2 | 2.6E-05 | 3.8E-01 |
| 1,1-Dichloroethylene | 75-35-4 | 5.0E-05 | 2.0E-01 |
| 1,3-Dichloropropene | 542-75-6 | 3.5E-01 | 2.9E-05 |

| | | | |
|---|------------|----------|-----------|
| Dieldrin | 60-57-1 | 4.6E-03 | 2.2E-03 |
| Diethylstilbestrol | 56-53-1 | 1.4E-01 | 7.1E-05 |
| Dimethylnitrosamine | 62-75-9 | 1.4E-02 | 7.1E-04 |
| 2,4-Dinitrotoluene | 121-14-2 | 8.8E-05 | 1.1E-01 |
| 1,2-Diphenylhydrazine | 122-66-7 | 2.2E-04 | 4.5E-02 |
| 1,4-Dioxane | 123-91-1 | 1.4E-06 | 7.1E + 00 |
| Epichlorohydrin | 106-89-8 | 1.2E-06 | 8.3E + 00 |
| Ethylene Oxide | 75-21-8 | 1.0E-04 | 1.0E-01 |
| Ethylene Dibromide | 106-93-4 | 2.2E-04 | 4.5E-02 |
| Formaldehyde | 50-00-0 | 1.3E-05 | 7.7E-01 |
| Heptachlor | 76-44-8 | 1.3E-03 | 7.7E-03 |
| Heptachlor Epoxide | 1024-57-3 | 2.6E-03 | 3.8E-03 |
| Hexachlorobenzene | 118-74-1 | 4.9E-04 | 2.0E-02 |
| Hexachlorobutadiene | 87-68-3 | 2.0E-05 | 5.0E-01 |
| Alpha-hexachloro-cyclohexane | 319-84-6 | 1.8E-03 | 5.6E-03 |
| Beta-hexachloro-cyclohexane | 319-85-7 | 5.3E-04 | 1.9E-02 |
| Gamma-hexachloro-cyclohexane | 58-89-9 | 3.8E-04 | 2.6E-02 |
| Hexachlorocyclo-hexane, Technical | | 5.1E-04 | 2.0E-02 |
| Hexachlorodibenzo-p-dioxin(1,2 Mixture) | | 1.3E + 0 | 7.7E-06 |
| Hexachloroethane | 67-72-1 | 4.0E-06 | 2.5E + 00 |
| Hydrazine | 302-01-2 | 2.9E-03 | 3.4E-03 |
| Hydrazine Sulfate | 302-01-2 | 2.9E-03 | 3.4E-03 |
| 3-Methylcholanthrene | 56-49-5 | 2.7E-03 | 3.7E-03 |
| Methyl Hydrazine | 60-34-4 | 3.1E-04 | 3.2E-02 |
| Methylene Chloride | 75-09-2 | 4.1E-06 | 2.4E + 00 |
| 4,4'-Methylene-bis-2-chloroaniline | 101-14-4 | 4.7E-05 | 2.1E-01 |
| Nickel | 7440-02-0 | 2.4E-04 | 4.2E-02 |
| Nickel Refinery Dust | 7440-02-0 | 2.4E-04 | 4.2E-02 |
| Nickel Subsulfide | 12035-72-2 | 4.8E-04 | 2.1E-02 |
| 2-Nitropropane | 79-46-9 | 2.7E-02 | 3.7E-04 |

| | | | |
|--------------------------------------|------------|-----------|-----------|
| N-Nitroso-n-butylamine | 924-16-3 | 1.6E-03 | 6.3E-03 |
| N-Nitroso-n-methylurea | 684-93-5 | 8.6E-02 | 1.2E-04 |
| N-Nitrosodiethylamine | 55-18-5 | 4.3E-02 | 2.3E-04 |
| N-Nitrosopyrrolidine | 930-55-2 | 6.1E-04 | 1.6E-02 |
| Pentachloronitrobenzene | 82-68-8 | 7.3E-05 | 1.4E-01 |
| PCBs | 1336-36-3 | 1.2E-03 | 8.3E-03 |
| Pronamide | 23950-58-5 | 4.6E-06 | 2.2E + 00 |
| Reserpine | 50-55-5 | 3.0E-03 | 3.3E-03 |
| 2,3,7,8-Tetrachloro-dibenzo-p-dioxin | 1746-01-6 | 4.5E + 01 | 2.2E-07 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 5.8E-05 | 1.7E-01 |
| Tetrachloroethylene | 127-18-4 | 4.8E-07 | 2.1E + 01 |
| Thiourea | 62-56-6 | 5.5E-04 | 1.8E-02 |
| 1,1,2-Trichloroethane | 79-00-5 | 1.6E-05 | 6.3E-01 |
| Trichloroethylene | 79-01-6 | 1.3E-06 | 7.7E + 00 |
| 2,4,6-Trichlorophenol | 88-06-2 | 5.7E-06 | 1.8E + 00 |
| Toxaphene | 8001-35-2 | 3.2E-04 | 3.1E-02 |
| Vinyl Chloride | 75-01-4 | 7.1E-06 | 1.4E + 00 |

Appendix VI-Stack Plume Rise

[Estimated Plume Rise (in Meters) Based on Stack Exit Flow Rate and Gas Temperature]

| Flow rate (m ³ /s) | Exhaust Temperature (K°) | | | | | | | | | | |
|----------------------------------|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-------|
| | <325 | 325-349 | 350-399 | 400-449 | 450-499 | 500-599 | 600-699 | 700-799 | 800-999 | 1000-1499 | >1499 |
| <0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.5-0.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1.0-1.9 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 3 | 3 | 4 |
| 2.0-2.9 | 0 | 0 | 1 | 3 | 4 | 4 | 6 | 6 | 7 | 8 | 9 |
| 3.0-3.9 | 0 | 1 | 2 | 5 | 6 | 7 | 9 | 10 | 11 | 12 | 13 |
| 4.0-4.9 | 1 | 2 | 4 | 6 | 8 | 10 | 12 | 13 | 14 | 15 | 17 |

| | | | | | | | | | | | |
|-------------|----|----|----|----|----|----|----|----|----|----|----|
| 5.0-7.4 | 2 | 3 | 5 | 8 | 10 | 12 | 14 | 16 | 17 | 19 | 21 |
| 7.5-9.9 | 3 | 5 | 8 | 12 | 15 | 17 | 20 | 22 | 22 | 23 | 24 |
| 10.0-12.4 | 4 | 6 | 10 | 15 | 19 | 21 | 23 | 24 | 25 | 26 | 27 |
| 12.5-14.9 | 4 | 7 | 12 | 18 | 22 | 23 | 25 | 26 | 27 | 28 | 29 |
| 15.0-19.9 | 5 | 8 | 13 | 20 | 23 | 24 | 26 | 27 | 28 | 29 | 31 |
| 20.0-24.9 | 6 | 10 | 17 | 23 | 25 | 27 | 29 | 30 | 31 | 32 | 34 |
| 25.0-29.9 | 7 | 12 | 20 | 25 | 27 | 29 | 31 | 32 | 33 | 35 | 36 |
| 30.0-34.9 | 8 | 14 | 22 | 26 | 29 | 31 | 33 | 35 | 36 | 37 | 39 |
| 35.0-39.9 | 9 | 16 | 23 | 28 | 30 | 32 | 35 | 36 | 37 | 39 | 41 |
| 40.0-49.9 | 10 | 17 | 24 | 29 | 32 | 34 | 36 | 38 | 39 | 41 | 42 |
| 50.0-59.9 | 12 | 21 | 26 | 31 | 34 | 36 | 39 | 41 | 42 | 44 | 46 |
| 60.0-69.9 | 14 | 22 | 27 | 33 | 36 | 39 | 42 | 43 | 45 | 47 | 49 |
| 70.0-79.9 | 16 | 23 | 29 | 35 | 38 | 41 | 44 | 46 | 47 | 49 | 51 |
| 80.0-89.9 | 17 | 25 | 30 | 36 | 40 | 42 | 46 | 48 | 49 | 51 | 54 |
| 90.0-99.9 | 19 | 26 | 31 | 38 | 42 | 44 | 48 | 50 | 51 | 53 | 56 |
| 100.0-119.9 | 21 | 26 | 32 | 39 | 43 | 46 | 49 | 52 | 53 | 55 | 58 |
| 120.0-139.9 | 22 | 28 | 35 | 42 | 46 | 49 | 52 | 55 | 56 | 59 | 61 |
| 140.0-159.9 | 23 | 30 | 36 | 44 | 48 | 51 | 55 | 58 | 59 | 62 | 65 |
| 160.0-179.9 | 25 | 31 | 38 | 46 | 50 | 54 | 58 | 60 | 62 | 65 | 67 |
| 180.0-199.9 | 26 | 32 | 40 | 48 | 52 | 56 | 60 | 63 | 65 | 67 | 70 |
| >199.9 | 26 | 33 | 41 | 49 | 54 | 58 | 62 | 65 | 67 | 69 | 73 |

Appendix VII-Health-Based Limits for Exclusion of Waste-Derived Residues*

Metals-TCLP Extract Concentration Limits

| Constituent | CAS No. | Concentration limits (mg/L) |
|-------------|-----------|-----------------------------|
| Antimony | 7440-36-0 | 1xE + 00 |
| Arsenic | 7440-38-2 | 5xE + 00 |
| Barium | 7440-39-3 | 1xE + 02 |
| Beryllium | 7440-41-7 | 7xE-03 |

| | | |
|----------|-----------|----------|
| Cadmium | 7440-43-9 | 1xE + 00 |
| Chromium | 7440-47-3 | 5xE + 00 |
| Lead | 7439-92-1 | 5xE + 00 |
| Mercury | 7439-97-6 | 2xE-01 |
| Nickel | 7440-02-0 | 7xE + 01 |
| Selenium | 7782-49-2 | 1xE + 00 |
| Silver | 7440-22-4 | 5xE + 00 |
| Thallium | 7440-28-0 | 7xE + 00 |

Nonmetals-Residue Concentration Limits

| Constituent | CAS No. | Concentration limits for residues (mg/kg) |
|-----------------------------|------------|---|
| Acetonitrile | 75-05-8 | 2xE-01 |
| Acetophenone | 98-86-2 | 4xE + 00 |
| Acrolein | 107-02-8 | 5xE-01 |
| Acrylamide | 79-06-1 | 2xE-04 |
| Acrylonitrile | 107-13-1 | 7xE-04 |
| Aldrin | 309-00-2 | 2xE-05 |
| Allyl alcohol | 107-18-6 | 2xE-01 |
| Aluminum phosphide | 20859-73-8 | 1xE-02 |
| Aniline | 62-53-3 | 6xE-02 |
| Barium cyanide | 542-62-1 | 1xE + 00 |
| Benz(a)anthracene | 56-55-3 | 1xE-04 |
| Benzene | 71-43-2 | 5xE-03 |
| Benzidine | 92-87-5 | 1xE-06 |
| Bis(2-chloroethyl) ether | 111-44-4 | 3xE-04 |
| Bis(chloromethyl) ether | 542-88-1 | 2xE-06 |
| Bis(2-ethylhexyl) phthalate | 117-81-7 | 3xE + 01 |
| Bromoform | 75-25-2 | 7xE-01 |
| Calcium cyanide | 592-01-8 | 1xE-06 |

| | | |
|-----------------------------|-----------|----------|
| Carbon disulfide | 75-15-0 | 4xE + 00 |
| Carbon tetrachloride | 56-23-5 | 5xE-03 |
| Chlordane | 57-74-9 | 3xE-04 |
| Chlorobenzene | 108-90-7 | 1xE + 00 |
| Chloroform | 67-66-3 | 6xE-02 |
| Copper cyanide | 544-92-3 | 2xE-01 |
| Cresols (Cresylic acid) | 1319-77-3 | 2xE + 00 |
| Cyanogen | 460-19-5 | 1xE + 00 |
| DDT | 50-29-3 | 1xE-03 |
| Dibenz(a, h)-anthracene | 53-70-3 | 7xE-06 |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 2xE-05 |
| p-Dichlorobenzene | 106-46-7 | 7.5xE-02 |
| Dichlorodifluoromethane | 75-71-8 | 7xE + 00 |
| 1,1-Dichloroethylene | 75-35-4 | 5xE-03 |
| 2,4-Dichlorophenol | 120-83-2 | 1xE-01 |
| 1,3-Dichloropropene | 542-75-6 | 1xE-03 |
| Dieldrin | 60-57-1 | 2xE-05 |
| Diethyl phthalate | 84-66-2 | 3xE + 01 |
| Diethylstilbesterol | 56-53-1 | 7xE-07 |
| Dimethoate | 60-51-5 | 3xE-02 |
| 2,4-Dinitrotoluene | 121-14-2 | 5xE-04 |
| Diphenylamine | 122-39-4 | 9xE-01 |
| 1,2-Diphenylhydrazine | 122-66-7 | 5xE-04 |
| Endosulfan | 115-29-7 | 2xE-03 |
| Endrin | 72-20-8 | 2xE-04 |
| Epichlorohydrin | 106-89-8 | 4xE-02 |
| Ethylene dibromide | 106-93-4 | 4xE-07 |
| Ethylene oxide | 75-21-8 | 3xE-04 |
| Fluorine | 7782-41-4 | 4xE + 00 |
| Formic acid | 64-18-6 | 7xE + 01 |

| | | |
|-------------------------------------|------------|----------|
| Heptachlor | 76-44-8 | 8xE-05 |
| Heptachlor epoxide | 1024-57-3 | 4xE-05 |
| Hexachlorobenzene | 118-74-1 | 2xE-04 |
| Hexachlorobutadiene | 87-68-3 | 5xE-03 |
| Hexachlorocyclopentadiene | 77-47-4 | 2xE-01 |
| Hexachlorodibenzo-p-dioxins | 19408-74-3 | 6xE-08 |
| Hexachloroethane | 67-72-1 | 3xE-02 |
| Hydrazine | 302-01-1 | 1xE-04 |
| Hydrogen cyanide | 74-90-8 | 7xE-05 |
| Hydrogen sulfide | 7783-06-4 | 1xE-06 |
| Isobutyl alcohol | 78-83-1 | 1xE + 01 |
| Methomyl | 16752-77-5 | 1xE + 00 |
| Methoxychlor | 72-43-5 | 1xE-01 |
| 3-Methylcholanthrene | 56-49-5 | 4xE-05 |
| 4,4'-Methylenebis (2-chloroaniline) | 101-14-4 | 2xE-03 |
| Methylene chloride | 75-09-2 | 5xE-02 |
| Methyl ethyl ketone (MEK) | 78-93-3 | 2xE + 00 |
| Methyl hydrazine | 60-34-4 | 3xE-04 |
| Methyl parathion | 298-00-0 | 2xE-02 |
| Naphthalene | 91-20-3 | 1xE + 01 |
| Nickel cyanide | 557-19-7 | 7xE-01 |
| Nitric oxide | 10102-43-9 | 4xE + 00 |
| Nitrobenzene | 98-95-3 | 2xE-02 |
| N-Nitrosodi-n-butylamine | 924-16-3 | 6xE-05 |
| N-Nitrosodiethylamine | 55-18-5 | 2xE-06 |
| N-Nitroso-N-methylurea | 684-93-5 | 1xE-07 |
| N-Nitrosopyrrolidine | 930-55-2 | 2xE-04 |
| Pentachlorobenzene | 608-93-5 | 3xE-02 |
| Pentachloronitrobenzene (PCNB) | 82-68-8 | 1xE-01 |
| Pentachlorophenol | 87-86-5 | 1xE + 00 |

| | | |
|----------------------------------|------------|----------|
| Phenol | 108-95-2 | 1xE + 00 |
| Phenylmercury acetate | 62-38-4 | 3xE-03 |
| Phosphine | 7803-51-2 | 1xE-02 |
| Polychlorinated biphenyls, N.O.S | 1336-36-3 | 5xE-05 |
| Potassium cyanide | 151-50-8 | 2xE + 00 |
| Potassium silver cyanide | 506-61-6 | 7xE + 00 |
| Pronamide | 23950-58-5 | 3xE + 00 |
| Pyridine | 110-86-1 | 4xE-02 |
| Reserpine | 50-55-5 | 3xE-05 |
| Selenourea | 630-10-4 | 2xE-01 |
| Silver cyanide | 506-64-9 | 4xE + 00 |
| Sodium cyanide | 143-33-9 | 1xE + 00 |
| Strychnine | 57-24-9 | 1xE-02 |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 1xE-02 |
| 1,1,2,2-tetrachloroethane | 79-34-5 | 2xE-03 |
| Tetrachloroethylene | 127-18-4 | 7xE-01 |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 1xE-02 |
| Tetraethyl lead | 78-00-2 | 4xE-06 |
| Thiourea | 62-56-6 | 2xE-04 |
| Toluene | 108-88-3 | 1xE + 01 |
| Toxaphene | 8001-35-2 | 5xE-03 |
| 1,1,2-Trichloroethane | 79-00-5 | 6xE-03 |
| Trichloroethylene | 79-01-6 | 5xE-03 |
| Trichloromonofluoromethane | 75-69-4 | 1xE + 01 |
| 2,4,5-Trichlorophenol | 95-95-4 | 4xE + 00 |
| 2,4,6-Trichlorophenol | 88-06-2 | 4xE + 00 |
| Vanadium pentoxide | 1314-62-1 | 7xE-01 |
| Vinyl chloride | 75-01-4 | 2xE-03 |

**Note: The health-based concentration limits for Appendix VIII, Section 261 constituents for which a health-based concentration is not provided below is 2xE-06 mg/kg.*

**Appendix VIII-Potential PICs for Determination of Exclusion of Waste-Derived Residues
PICs Found in Stack Effluents**

| Volatiles | Semivolatiles |
|---------------------------|--|
| Benzene | Bis(2-ethylhexyl)phthalate |
| Toluene | Naphthalene |
| Carbon tetrachloride | Phenol |
| Chloroform | Diethyl phthalate |
| Methylene chloride | Butyl benzyl phthalate |
| Trichloroethylene | 2,4-Dimethylphenol |
| Tetra chloroethylene | o-Dichlorobenzene |
| 1,1,1-Trichloroethane | m-Dichlorobenzene |
| Chlorobenzene | p-Dichlorobenzene |
| cis-1,4-Dichloro-2-butene | Hexachlorobenzene |
| Bromochloromethane | 2,4,6-Trichlorophenol |
| Bromodichloromethane | Fluoranthene |
| Bromoform | o-Nitrophenol |
| Bromomethane | 1,2,4-Trichlorobenzene |
| Methylene bromide | o-Chlorophenol |
| Methyl ethyl ketone | Pentachlorophenol Pyrene Dimethyl phthalate Mononitrobenzene 2,6-Toluene diisocyanate Polychlorinated dibenzo-p-dioxins ¹ Polychlorinated dibenzo-furans ¹ |

¹ Analyses for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans are required only for residues collected from areas downstream of the combustion chamber (e.g., ductwork, boiler tubes, heat exchange surfaces, air pollution control devices, etc.).

APPENDIX IX. - METHODS MANUAL FOR COMPLIANCE WITH THE BIF REGULATIONS

This appendix is incorporated by reference from 40 CFR Part 266, Appendix IX. Please refer to this document, or you may obtain a copy of this manual from the DEQ Hazardous Waste Division, (501) 682-0833 or via the BBS service at (501) 682-0563.

APPENDIX X. - GUIDELINE ON AIR QUALITY MODELS

This appendix has been deleted by a revised Federal ruling at 58 FR 38816, July 20, 1993. Please refer to Appendix W of 40 CFR Part 51 (Guideline on Air Quality Models (Revised) (1986)) and its supplements for detailed information regarding air modeling for compliance with the requirements of this Section. A copy of this manual may be obtained from the DEQ Hazardous Waste Division, (501) 682-0833, or via the BBS service at (501) 682-0563.

APPENDIX XI.-LEAD-BEARING MATERIALS THAT MAY BE PROCESSED IN EXEMPT LEAD SMELTERS

A. Exempt Lead-Bearing Materials When Generated or Originally Produced By Lead-Associated Industries¹

- Acid dump/fill solids
- Sump mud
- Materials from laboratory analyses
- Acid filters
- Baghouse bags
- Clothing (e.g., coveralls, aprons, shoes, hats, gloves)
- Sweepings
- Air filter bags and cartridges
- Respiratory cartridge filters
- Shop abrasives
- Stacking boards
- Waste shipping containers (e.g., cartons, bags, drums, cardboard)
- Paper hand towels
- Wiping rags and sponges
- Contaminated pallets
- Water treatment sludges, filter cakes, residues, and solids
- Emission control dusts, sludges, filter cakes, residues, and solids from lead-associated industries (e.g., K069 and D008 wastes)
- Spent grids, posts, and separators
- Spent batteries
- Lead oxide and lead oxide residues
- Lead plates and groups
- Spent battery cases, covers, and vents

Pasting belts
Water filter media
Cheesecloth from pasting rollers
Pasting additive bags
Asphalt paving materials

B. Exempt Lead-Bearing Materials When Generated or Originally Produced By Any Industry

Charging jumpers and clips
Platen abrasive
Fluff from lead wire and cable casings
Lead-based pigments and compounding pigment dust

1. Lead-associated industries are lead smelters, lead- acid battery manufacturing, and lead chemical manufacturing (e.g., manufacturing of lead oxide or other lead compounds).

APPENDIX XII.-NICKEL OR CHROMIUM-BEARING MATERIALS THAT MAY BE PROCESSED IN EXEMPT NICKEL-CHROMIUM RECOVERY FURNACES

A. Exempt Nickel or Chromium-Bearing Materials when Generated by Manufacturers or Users of Nickel, Chromium, or Iron

Baghouse bags
Raney nickel catalyst
Floor sweepings
Air filters
Electroplating bath filters
Wastewater filter media
Wood pallets
Disposable clothing (coveralls, aprons, hats, gloves)
Laboratory samples and spent chemicals
Shipping containers and plastic liners from containers or vehicles used to transport nickel or chromium-containing wastes
Respirator

Appendix XIII to Section 266 - Mercury Bearing Wastes That May Be Processed in Exempt Mercury Recovery Units

These are exempt mercury-bearing materials with less than 500 ppm of Section 261, appendix VIII organic constituents when generated by manufacturers or users of mercury or mercury products.

1. Activated carbon
2. Decomposer graphite
3. Wood
4. Paper
5. Protective clothing
6. Sweepings
7. Respiratory cartridge filters

8. Cleanup articles
9. Plastic bags and other contaminated containers
10. Laboratory and process control samples
11. K106 and other wastewater treatment plant sludge and filter cake
12. Mercury cell sump and tank sludge
13. Mercury cell process solids
14. Recoverable levels of mercury contained in soil

Section 267—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE FACILITIES OPERATING UNDER A STANDARDIZED PERMIT

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- § 267.2 What is the relationship to interim status standards?
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- § 267.11 What must I do to comply with this subsection?
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- § 267.110 Does this subsection apply to me?
- § 267.111 What general standards must I meet when I stop operating the unit?
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- § 267.140 Who must comply with this subsection, and briefly, what do they have to do?
- § 267.141 Definitions of terms as used in this subsection.
- § 267.142 Cost estimate for closure.
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- § 267.144–267.146 [Reserved]
- § 267.147 Liability requirements.
- § 267.148 Incapacity of owners or operators, guarantors, or financial institutions.
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- § 267.150 State assumption of responsibility.
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- § 267.171 What standards apply to the containers?
- § 267.172 What are the inspection requirements?
- § 267.173 What standards apply to the container storage areas?
- § 267.174 What special requirements must I meet for ignitable or reactive waste?
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§ 267.176 What must I do when I want to stop using the containers?

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Subsection J—Tank Systems

§ 267.190 Does this subsection apply to me?

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§ 267.192 What handling and inspection procedures must I follow during installation of new tank systems?

§ 267.193 What testing must I do?

§ 267.194 What installation requirements must I follow?

§ 267.195 What are the secondary containment requirements?

§ 267.196 What are the required devices for secondary containment and what are their design, operating and installation requirements?

§ 267.197 What are the requirements for ancillary equipment?

§ 267.198 What are the general operating requirements for my tank systems?

§ 267.199 What inspection requirements must I meet?

§ 267.200 What must I do in case of a leak or a spill?

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§ 267.204 What air emission standards apply?

Subsections K Through CC [Reserved]

Subsection DD—Containment buildings

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§ 267.1101 What design and operating standards must my containment building meet?

§ 267.1102 What other requirements must I meet to prevent releases?

§ 267.1103 What additional design and operating standards apply if liquids will be in my containment building?

§ 267.1104 How may I obtain a waiver from secondary containment requirements?

§ 267.1105 What do I do if my containment building contains areas both with and without secondary containment?

§ 267.1106 What do I do if I detect a release?

§ 267.1107 Can a containment building itself be considered secondary containment?

§ 267.1108 What must I do when I stop operating the containment building?

Subsection A—General

§ 267.1 What are the purpose, scope and applicability of this section?

(a) The purpose of this section is to establish minimum national standards which define the acceptable management of hazardous waste under a Section 270, subsection J standardized permit.

(b) This section applies to owners and operators of facilities who treat or store hazardous waste under a Section 270, subsection J standardized permit, except as provided otherwise in Section 261, subsection A, or Section 264.1(f) and (g) of this Rule.

§ 267.2 What is the relationship to interim status standards?

If you are a facility owner or operator who has fully complied with the requirements for interim status—as defined in Section 3005(e) of RCRA and Section 270.70 of this rule—you must comply with the rules specified in Section 265 of this Rule instead of the rules in this section, until final administrative disposition of the standardized permit application is made, except as provided under Section 264, subsection S.

§ 267.3 How does this section affect an imminent hazard action?

Notwithstanding any other provisions of this section, enforcement actions may be brought pursuant to section 7003 of RCRA.

Subsection B—General Facility Standards

§ 267.10 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste under a Section 270, subsection J standardized permit, except as provided in § 267.1(b) of this Rule.

§ 267.11 What must I do to comply with this subsection?

To comply with this subsection, you must obtain an EPA identification number, and follow the requirements below for waste analysis, security, inspections, training, special waste handling, and location standards.

§ 267.12 How do I obtain an EPA identification number

You must apply to the Division for an EPA identification number following the current notification procedures and using forms as provided by the Division. You may obtain these forms by contacting the Division, or from the DEQ web site at <http://www.adeq.state.ar.us>

§ 267.13 What are my waste analysis requirements?

(a) Before you treat or store any hazardous wastes, you must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information needed to treat or store the waste to comply with this section and Section 268 of this Rule.

(1) You may include data in the analysis that was developed under Section 261, and published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

(2) You must repeat the analysis as necessary to ensure that it is accurate and up to date. At a minimum, you must repeat the analysis if the process or operation generating the hazardous wastes has changed.

(b) You must develop and follow a written waste analysis plan that describes the procedures you will follow to comply with paragraph (a) of this section. You must keep this plan at the facility. If you receive wastes generated from off-site, and are eligible for a standardized permit, you also

must have submitted the waste analysis plan with the Notice of Intent. At a minimum, the plan must specify all of the following:

- (1) The hazardous waste parameters that you will analyze and the rationale for selecting these parameters (that is, how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section).
- (2) The test methods you will use to test for these parameters.
- (3) The sampling method you will use to obtain a representative sample of the waste to be analyzed. You may obtain a representative sample using either:
 - (i) One of the sampling methods described in appendix I of Section 261; or
 - (ii) An equivalent sampling method.
- (4) How frequently you will review or repeat the initial analysis of the waste to ensure that the analysis is accurate and up to date.
- (5) Where applicable, the methods you will use to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 264.17, 264.1034(d), 264.1063(d), and 264.1083.

§ 267.14 What are my security requirements?

(a) You must prevent, and minimize the possibility for, livestock and unauthorized people from entering the active portion of your facility.

(b) Your facility must have:

- (1) A 24-hour surveillance system (for example, television monitoring or surveillance by guards or facility personnel) that continuously monitors and controls entry onto the active portion of the facility; or
- (2) An artificial or natural barrier (for example, a fence in good repair or a fence combined with a cliff) that completely surrounds the active portion of the facility; and
- (3) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (for example, an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

(c) You must post a sign at each entrance to the active portion of a facility, and at other prominent locations, in sufficient numbers to be seen from any approach to this active portion. The sign must bear the legend "Danger—Unauthorized Personnel Keep Out." The legend must be in English and in any other language predominant in the area surrounding the facility (for example, facilities in counties bordering the Canadian province of Quebec must post signs in French, and facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. You may use existing signs with a legend other than "Danger—Unauthorized Personnel Keep Out" if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

§ 267.15 What are my general inspection requirements?

(a) You must inspect your facility for malfunctions and deterioration, operator errors, and discharges that may be causing, or may lead to:

- (1) Release of hazardous waste constituents to the environment; or

(2) A threat to human health. You must conduct these inspections often enough to identify problems in time to correct them before they result in harm to human health or the environment.

(b) You must develop and follow a written schedule for inspecting, monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(1) You must keep this schedule at the facility.

(2) The schedule must identify the equipment and devices you will inspect and what problems you look for, such as malfunctions or deterioration of equipment (for example, inoperative sump pump, leaking fitting, etc.).

(3) The frequency of your inspections may vary for the items on the schedule. However, the frequency should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies required in §§ 267.174, 267.193, 267.195, 267.1103, and §§ 264.1033, 264.1052, 264.1053, 264.1058, and 264.1083 through 264.1089, where applicable.

(c) You must remedy any deterioration or malfunction of equipment or structures that the inspection reveals in time to prevent any environmental or human health hazard. Where a hazard is imminent or has already occurred, you must take remedial action immediately.

(d) You must record all inspections. You must keep these records for at least three years from the date of inspection. At a minimum, you must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

§ 267.16 What training must my employees have?

(a) Your facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this section. You must ensure that this program includes all the elements described in the documents that are required under paragraph (d)(3) of this section.

(1) A person trained in hazardous waste management procedures must direct this program, and must teach facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to their employment positions.

(2) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by including instruction on emergency procedures, emergency equipment, and emergency systems, including all of the following, where applicable:

- (i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment
- (ii) Key parameters for automatic waste feed cut-off systems.
- (iii) Communications or alarm systems.
- (iv) Response to fires or explosions.

(v) Response to ground water contamination incidents.

(vi) Shutdown of operations.

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of your standardized permit must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) You must maintain the following documents and records at your facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this section. This description must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that facility personnel have received and completed the training or job experience required under paragraphs (a), (b), and (c) of this section.

(e) You must keep training records on current personnel until your facility closes. You must keep training records on former employees for at least three years from the date the employee last worked at your facility. Personnel training records may accompany personnel transferred within your company.

(f) *Additionally, you must meet the following requirements:*

(1) No employee may be assigned the duties of transferring, handling, sorting, mixing, treating or disposing of hazardous waste unless that employee meets the requirements set out in § 267.16 (a), (b) and (c) above.

(2) No employee may be assigned the duties of transferring, handling, sorting, mixing, treating or disposing of hazardous waste unless that employee has demonstrated his/her capabilities of:

(i) Reading and comprehending label instructions, operational procedures, contingency plans and regulatory directives;

(ii) Understanding the basic nature of the materials which he/she is assigned to transfer, handle, sort, mix, treat or dispose relative to the material's reactivity, toxicity, explosiveness and flammability; and

(iii) Operating all equipment which he/she is assigned to operate, including personal safety and emergency equipment.

(3) You must promptly modify the training required of your employees whenever required to do so upon the direction of the Division or whenever modification in training is required as a condition of permit; provided, however, that preliminary training, approved by the Division, shall have been completed prior to commencement of operation of a new hazardous waste management facility or prior to commencement of an operation in an existing facility for which a permit has been issued or modified.

§ 267.17 What are the requirements for managing ignitable, reactive, or incompatible wastes?

(a) You must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste by following these requirements:

(1) You must separate these wastes and protect them from sources of ignition or reaction such as: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (for example, from heat-producing chemical reactions), and radiant heat.

(2) While ignitable or reactive waste is being handled, you must confine smoking and open flames to specially designated locations.

(3) “No Smoking” signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) If you treat or store ignitable or reactive waste, or mix incompatible waste or incompatible wastes and other materials, you must take precautions to prevent reactions that:

(1) Generate extreme heat or pressure, fire or explosions, or violent reactions.

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment.

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.

(4) Damage the structural integrity of the device or facility.

(5) Threaten human health or the environment in any similar way.

(c) You must document compliance with paragraph (a) or (b) of this section. You may base this documentation on references to published scientific or engineering literature, data from trial tests (for example bench scale or pilot scale tests), waste analyses (as specified in § 267.13), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

§ 267.18 What are the standards for selecting the location of my facility?

(a) You may not locate portions of new facilities where hazardous waste will be treated or stored within 61 meters (200 feet) of a fault that has had displacement in Holocene time.

(1) “Fault” means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(2) “Displacement” means the relative movement of any two sides of a fault measured in any direction.

(3) “Holocene” means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene to the present.

Note to paragraph (a)(3): Procedures for demonstrating compliance with this standard are specified in Section 270.14(b)(11) of this Rule. Facilities which are located in political jurisdictions other than those listed in appendix VI to Section 264, are assumed to be in compliance with this requirement.

(b) If your facility is located in a 100-year flood plain, it must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood.

(1) “100-year flood plain” means any land area that is subject to a one percent or greater chance of flooding in any given year from any source.

(2) “Washout” means the movement of hazardous waste from the active portion of the

facility as a result of flooding.

(3) “100-year flood” means a flood that has a one percent chance of being equaled or exceeded in any given year.

Subsection C—Preparedness and Prevention

§ 267.30 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste under a Section 270, subsection J standardized permit, except as provided in § 267.1(b).

§ 267.31 What are the general design and operation standards?

You must design, construct, maintain, and operate your facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment.

§ 267.32 What equipment am I required to have?

Your facility must be equipped with all of the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams.

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment.

(d) Water at adequate volume and pressure to supply water hose streams, or foam-producing equipment, or automatic sprinklers, or water spray systems.

§ 267.33 What are the testing and maintenance requirements for the equipment?

You must test and maintain all required facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, as necessary, to assure its proper operation in time of emergency.

§ 267.34 When must personnel have access to communication equipment or an alarm system?

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the device is not required under § 267.32.

(b) If just one employee is on the premises while the facility is operating, that person must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless not required under § 267.32.

§ 267.35 How do I ensure access for personnel and equipment during emergencies?

You must maintain enough aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, as appropriate, considering the type of waste being stored or treated.

§ 267.36 What arrangements must I make with local authorities for emergencies?

(a) You must attempt to make the following arrangements, as appropriate, for the type of waste handled at your facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes.

(2) Agreements designating primary emergency authority to a specific police and a specific fire department where more than one police and fire department might respond to an emergency, and agreements with any others to provide support to the primary emergency authority.

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers.

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses that could result from fires, explosions, or releases at the facility.

(b) If State or local authorities decline to enter into such arrangements, you must document the refusal in the operating record.

Subsection D—Contingency Plan and Emergency Procedures

§ 267.50 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste under a Section 270, subsection J standardized permit, except as provided in § 267.1(b).

§ 267.51 What is the purpose of the contingency plan and how do I use it?

(a) You must have a contingency plan for your facility. You must design the plan to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) You must implement the provisions of the plan immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

§ 267.52 What must be in the contingency plan?

(a) Your contingency plan must:

(1) Describe the actions facility personnel will take to comply with §§ 267.51 and 267.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(2) Describe all arrangements agreed upon under § 267.36 by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services.

(3) List names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see § 267.55), and you must keep the list up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(4) Include a current list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. In addition, you must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(5) Include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. You must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

(b) If you have already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan under 40 CFR part 112, or some other emergency or contingency plan, you need only amend that plan to incorporate hazardous waste management provisions that will comply with the requirements of this section.

§ 267.53 Who must have copies of the contingency plan?

(a) You must maintain a copy of the plan with all revisions at the facility; and

(b) You must submit a copy with all revisions to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

§ 267.54 When must I amend the contingency plan?

You must review, and immediately amend the contingency plan, if necessary, whenever:

(a) The facility permit is revised.

(b) The plan fails in an emergency.

(c) You change the facility (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an

emergency.

- (d) You change the list of emergency coordinators.
- (e) You change the list of emergency equipment.

§ 267.55 What is the role of the emergency coordinator?

At least one employee must be either on the facility premises or on call at all times (that is, available to respond to an emergency by reaching the facility within a short period of time) who has the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

§ 267.56 What are the required emergency procedures for the emergency coordinator?

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

- (1) Activate internal facility alarm or communication systems, where applicable, to notify all facility personnel, and
- (2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must:

- (1) Immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.
- (2) Assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion. For example, the assessment would consider the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions.

(c) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

- (1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and
- (2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll-free number 800/ 424-8802). The report must include:
 - (i) Name and telephone number of the reporter.
 - (ii) Name and address of facility.
 - (iii) Time and type of incident (for example, a release or a fire).
 - (iv) Name and quantity of material(s) involved, to the extent known.

- (v) The extent of injuries, if any.
- (vi) The possible hazards to human health or the environment outside the facility.
- (d) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.
- (e) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, when appropriate.

§ 267.57 What must the emergency coordinator do after an emergency?

- (a) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.
- (b) The emergency coordinator must ensure that, in the affected area(s) of the facility:
 - (1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.
 - (2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

§ 267.58 What notification and recordkeeping must I do after an emergency?

- (a) You must notify the Director, and other appropriate State and local authorities, that the facility is in compliance with § 267.57(b) before operations are resumed in the affected area(s) of the facility.
- (b) You must note the time, date, and details of any incident that requires implementing the contingency plan in the operating record. Within 15 days after the incident, you must submit a written report on the incident to the Director. You must include the following in the report:
 - (1) The name, address, and telephone number of the owner or operator.
 - (2) The name, address, and telephone number of the facility.
 - (3) The date, time, and type of incident (e.g., fire, explosion).
 - (4) The name and quantity of material(s) involved.
 - (5) The extent of injuries, if any.
 - (6) An assessment of actual or potential hazards to human health or the environment, where this is applicable.
 - (7) The estimated quantity and disposition of recovered material that resulted from the incident.

Subsection E—Recordkeeping, Reporting, and Notifying

§ 267.70 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that stores or non-thermally treats a hazardous waste under a Section 270, subsection J standardized permit, except as provided in §

267.1(b). In addition, you must comply with the manifest requirements of Section 262 of this Rule whenever a shipment of hazardous waste is initiated from your facility.

§ 267.71 Use of the manifest system.

(a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

- (1) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;
- (2) Note any significant discrepancies in the manifest (as defined in § 267.72(a)) on each copy of the manifest;
- (3) Immediately give the transporter at least one copy of the signed manifest;
- (4) Within 30 days after the delivery, send a copy of the manifest to the generator;
- (5) Retain at the facility a copy of each manifest for at least three years from the date of delivery;
- (6) If a facility receives hazardous waste subject to section 262, subsection H from a foreign source, the receiving facility must:
 - (i) Additionally list the relevant consent number from consent documentation supplied by EPA to the facility for each waste listed on the manifest, matched to the relevant list number for the waste from block 9b. If additional space is needed, the receiving facility should use a Continuation Sheet(s) (EPA Form 8700-22A); and
 - (ii) Mail a copy of the manifest to EPA using the addresses listed in § 262.82(e) within thirty (30) days of delivery until the facility can submit such a copy to the e-Manifest system per § 264.71(a)(2)(v) or § 265.71(a)(2)(v).

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

- (1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;
- (2) Note any significant discrepancies (as defined in § 267.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper. Note that the Commission does not intend that the owner or operator of a facility whose procedures under § 267.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 267.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.
- (3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);
- (4) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator, or his agent, must send a copy of the shipping paper signed and dated to the generator. Note that § 262.23(c) of this Rule requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment); and

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of section 262 of this Rule. The Commission notes that the provisions of § 262.16 or 262.17 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of § 262.16 or 262.17 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

(d) As per § 262.84(d)(2)(xv), within three (3) working days of the receipt of a shipment subject to section 262, subsection H, the owner or operator of a facility must provide a copy of the movement document bearing all required signatures to the foreign exporter; to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original copy of the movement document must be maintained at the facility for at least three (3) years from the date of signature. The owner or operator of a facility may satisfy this recordkeeping requirement by retaining electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No owner or operator of a facility may be held liable for the inability to produce the documents for inspection under this section if the owner or operator of a facility can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system, for which the owner or operator of a facility bears no responsibility.

§ 267.72 Manifest discrepancies.

(a) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are:

(1) For bulk waste, variations greater than 10 percent in weight; and

(2) For batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(b) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Director a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

§ 267.73 What information must I keep?

(a) You must keep a written operating record at your facility.

(b) You must record the following information, as it becomes available, and maintain the operating record until you close the facility:

(1) A description and the quantity of each type of hazardous waste generated, and the method(s) and date(s) of its storage and/or treatment at the facility as required by Appendix I of Section 264;

(2) The location of each hazardous waste within the facility and the quantity at each location;

(3) Records and results of waste analyses and waste determinations you perform as specified in §§ 267.13, 267.17, and Sections 264.1034, 264.1063, 264.1083, and 268.7;

(4) Summary reports and details of all incidents that require you to implement the contingency plan as specified in § 267.58(b));

(5) Records and results of inspections as required by § 267.15(d) (except you need to keep these data for only three years);

(6) Monitoring, testing or analytical data, and corrective action when required by subsection F of this section and §§ 267.191, 267.193, 267.195, and Sections 264.1034(c) through 264.1034(f), 264.1035, 264.1063(d) through 264.1063(i), 264.1064, 264.1088, 264.1089, and 264.1090;

(7) All closure cost estimates under § 267.142;

(8) Your certification, at least annually, that you have a program in place to reduce the volume and toxicity of hazardous waste that you generate to the degree that you determine to be economically practicable; and that the proposed method of treatment or storage is that practicable method currently available to you that minimizes the present and future threat to human health and the environment;

(9) For an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration, if applicable, required by you under Section 268.7 of this Rule; and

(10) For an on-site storage facility, the information in the notice (except the manifest number), and the certification and demonstration, if applicable, required by you under § 268.7.

(11) For an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(12) For an off-site storage facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8.

§ 267.74 Who sees the records?

(a) You must furnish all records, including plans, required under this section upon the request of any officer, employee, or representative of DEQ who is duly designated by the Director, and make them available at all reasonable times for inspection.

(b) The retention period for all records required under this section is extended automatically during the course of any unresolved enforcement action involving the facility or as requested by the Director.

§ 267.75 What reports must I prepare and to whom do I send them?

You must prepare an annual report and other reports listed in paragraph (b) of this section.

(a) *Annual report.* You must prepare and submit a single copy of an *annual report* to the Director by March 1 of each year. The *annual report* must be submitted on forms as provided by the Division. The report must cover facility activities during the previous calendar year and must include:

- (1) The EPA identification number, name, and address of the facility;
- (2) The calendar year covered by the report;
- (3) The method of treatment or storage for each hazardous waste;
- (4) The most recent closure cost estimate under § 267.142;
- (5) A description of the efforts undertaken during the year to reduce the volume and toxicity of generated waste.
- (6) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984.
- (7) The certification signed by you.

(b) *Additional reports.* In addition to submitting the biennial reports, you must also report to the Director:

- (1) Releases, fires, and explosions as specified in § 267.58(b);
- (2) Facility closures specified in § 267.117; and
- (3) As otherwise required by subsections I, J, and DD of this section and Section 264, subsections AA, BB, CC.

(c) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(d) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by EPA identification number of each generator.

§ 267.76 What notifications must I make?

Before transferring ownership or operation of a facility during its operating life, you must notify the new owner or operator in writing of the requirements of this section and Section 270, subsection J.

Subsection F—Releases from Solid Waste Management Units

§ 267.90 Who must comply with this section?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste under a Section 270, subsection J standardized permit, except as provided in § 267.1(b), or unless your facility already has a permit that imposes requirements for corrective action under Section 264.101 of this Rule.

§ 267.91–267.100 [Reserved] § 267.101 What must I do to address corrective action for solid waste management units?

(a) You must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(b) The Director will specify corrective action in the supplemental portion of your standardized permit in accordance with this section and Section 264, subsection S of this Rule. The Director will include in the supplemental portion of your standardized permit schedules of compliance for corrective action (where corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing corrective action.

(c) You must implement corrective action beyond the facility property boundary, where necessary to protect human health and the environment, unless you demonstrate to the satisfaction of the Director that, despite your best efforts, you were unable to obtain the necessary permission to undertake such actions. You are not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. You must provide assurances of financial responsibility for such corrective action.

(d) You do not have to comply with this section if you are the owner or operator of a remediation waste site unless your site is part of a facility that is subject to a permit for treating, storing, or disposing of hazardous wastes that are not remediation wastes.

Subsection G—Closure

§ 267.110 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste under a Section 270, subsection J standardized permit, except as provided in § 267.1(b).

§ 267.111 What general standards must I meet when I stop operating the unit?

You must close the storage and treatment units in a manner that:

- (a) Minimizes the need for further maintenance; and
- (b) Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and
- (c) Meets the closure requirements of this subsection and the requirements of §§ 267.176, 267.201, and 267.1108. If you determine that, when applicable, the closure requirements of § 267.201(tanks) or § 267.1108 (containment buildings) cannot be met, then you must close the unit in accordance with the requirements that apply to landfills (§ 264.310). In addition, for the purposes of post-closure and financial responsibility, such a tank system or containment building is then considered to be a landfill, and you must apply for a post-closure care permit in accordance with Section 270 of this Rule.

§ 267.112 What procedures must I follow?

(a) To close a facility, you must follow your approved closure plan, and follow notification requirements.

(1) Your closure plan must be submitted at the time you submitted your Notice of Intent to operate under a standardized permit. Final issuance of the standardized permit constitutes approval of the closure plan, and the plan becomes a condition of the RCRA standardized permit.

(2) The Director's approval of the plan must ensure that the approved plan is consistent with §§ 267.111 through 267.115, 267.176, 267.201, and 267.1108.

(b) Satisfy the requirements for content of closure plan. The closure plan must identify steps necessary to perform partial and/or final closure of the facility. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility subject to this subsection will be closed following § 267.111.

(2) A description of how final closure of the facility will be conducted in accordance with § 267.111. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility.

(3) An estimate of the maximum inventory of hazardous wastes ever on site during the active life of the facility and a detailed description of the methods you will use during partial and /or final closure, such as methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of off-site hazardous waste management units to be used, if applicable.

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial or final closure. These might include procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard;

(5) A detailed description of other activities necessary during the closure period to ensure that partial or final closure satisfies the closure performance standards.

(6) A schedule for closure of each hazardous waste management unit, and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities that allow tracking of progress of partial or final closure.

(7) For facilities that use trust funds to establish financial assurance under § 267.143 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(c) You may submit a written notification to the Director for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility, following the applicable procedures in 40 CFR 124.211.

(1) Events leading to a change in the closure plan, and therefore requiring a modification, may include:

(i) A change in the operating plan or facility design;

(ii) A change in the expected year of closure, if applicable; or

(iii) In conducting partial or final closure activities, an unexpected event requiring a modification of the approved closure plan.

(2) The written notification or request must include a copy of the amended closure plan for review or approval by the Director. The Director will approve, disapprove, or modify this amended plan in accordance with the procedures in 40 CFR 124.211, 270.320 of this Rule, and Rule No. 8.

(d) Notification before final closure.

(1) You must notify the Director in writing at least 45 days before the date that you expect to begin final closure of a treatment or storage tank, container storage area, or containment building.

(2) The date when you “expect to begin closure” must be no later than 30 days after the date that any hazardous waste management unit receives the known final volume of hazardous wastes.

(3) If your facility’s permit is terminated, or if you are otherwise ordered, by judicial decree or final order under section 3008 of RCRA, to cease receiving hazardous wastes or to close, then the requirements of this paragraph (d) do not apply. However, you must close the facility following the deadlines established in § 267.115.

§ 267.113 Will the public have the opportunity to comment on the plan?

(a) The Director will provide you and the public, when the draft standardized permit is public noticed, the opportunity to submit written comments on the plan and to the draft permit as allowed by Rule No. 8. The Director will also, in response to a request or at his/her own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning the closure plan, and the permit.

(b) The Director will give public notice of the hearing 30 days before it occurs. Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.

§ 267.114 [Reserved]

§ 267.115 After I stop operating, how long until I must close?

(a) Within 90 days after the final volume of hazardous waste is sent to a unit, you must treat or remove from the unit all hazardous wastes following the approved closure plan.

(b) You must complete final closure activities in accordance with the approved closure plan within 180 days after the final volume of hazardous wastes is sent to the unit. The Director may approve an extension of 180 days to the closure period if you comply with all applicable requirements for requesting a modification to the permit and demonstrate that:

(1) The final closure activities will take longer than 180 days to complete due to circumstances beyond your control, excluding ground water contamination; and

(2) You have taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed, but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.

(3) The demonstration must be made at least 30 days prior to the expiration of the initial

180-day period.

(c) Nothing in this section precludes you from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved final closure plan at any time before or after notification of final closure.

§ 267.116 What must I do with contaminated equipment, structure, and soils?

You must properly dispose of or decontaminate all contaminated equipment, structures, and soils during the partial and final closure periods. By removing any hazardous wastes or hazardous constituents during partial and final closure, you may become a generator of hazardous waste and must handle that waste following all applicable requirements of Section 262 of this Rule.

§ 267.117 How do I certify closure?

Within 60 days of the completion of final closure of each unit under a Section 270 subsection J standardized permit, you must submit to the Director, by registered mail, a certification that each hazardous waste management unit or facility, as applicable, has been closed following the specifications in the closure plan. Both you and an *independent qualified Arkansas-registered professional engineer* must sign the certification. You must furnish documentation supporting the *independent Arkansas-registered professional engineer's* certification to the Director upon request until he releases you from the financial assurance requirements for closure under § 267.143(i).

Subsection H—Financial Requirements

§ 267.140 Who must comply with this subsection, and briefly, what do they have to do?

(a) The rules in this subsection apply to owners and operators who treat or store hazardous waste under a standardized permit, except as provided in § 267.1(b), or § 267.140(d) below.

(b) The owner or operator must:

- (1) Prepare a closure cost estimate as required in § 267.142;
- (2) Demonstrate financial assurance for closure as required in § 267.143; and
- (3) Demonstrate financial assurance for liability as required in § 267.147.

(c) The owner or operator must notify the Director if the owner or operator is named as a debtor in a bankruptcy proceeding under Title 11 (Bankruptcy), U.S. Code (See also § 267.148).

(d) States and the Federal government are exempt from the requirements of this subsection.

§ 267.141 Definitions of terms as used in this subsection.

(a) Closure plan means the plan for closure prepared in accordance with the requirements of § 267.112.

(b) Current closure cost estimate means the most recent of the estimates prepared in accordance with § 267.142 (a), (b), and (c).

(c) [Reserved]

(d) Parent corporation means a corporation which directly owns at least 50 percent of the voting

stock of the corporation which is the facility owner or operator; the latter corporation is deemed a “subsidiary” of the parent corporation.

(e) [Reserved]

(f) The following terms are used in the specifications for the financial tests for closure and liability coverage. The definitions are intended to assist in the understanding of these rules and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices:

“Assets” means all existing and all probable future economic benefits obtained or controlled by a particular entity.

“Current plugging and abandonment cost estimate” means the most recent of the estimates prepared in accordance with 40 CFR 144.62(a), (b), and (c).

“Independently audited” refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

“Liabilities” means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

“Tangible net worth” means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements, the terms bodily injury and property damage shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The Commission intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these rules and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

“Accidental occurrence” means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

“Legal defense costs” means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

“Sudden accidental occurrence” means an occurrence which is not continuous or repeated in nature.

(h) “Substantial business relationship” means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A “substantial business relationship” must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the Director.

§ 267.142 Cost estimate for closure.

(a) The owner or operator must have at the facility a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in §§ 267.111 through 267.115 and applicable closure requirements in §§ 267.176, 267.201, 267.1108.

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by the closure plan (see § 267.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 267.141(d).) The owner or operator may use costs for onsite disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes that might have economic value.

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 267.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Director as specified in § 267.143(f)(2)(iii). The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross Domestic Product published by the U.S. Department of Commerce in its Survey of Current Business, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after the Director has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in § 267.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with paragraphs (a) and (c) of this section and, when this estimate has been adjusted in accordance with paragraph (b) of this section, the latest adjusted closure cost estimate.

§ 267.143 Financial assurance for closure.

The owner or operator must establish financial assurance for closure of each storage or treatment unit that he owns or operates. In establishing financial assurance for closure, the owner or operator must choose from the financial assurance mechanisms in paragraphs (a), (b), (c), (d), (e), (f), and (g) of this section. The owner or operator can also use a combination of mechanisms for a single facility if they meet the requirement in paragraph (h) of this section, or may use a single mechanism for multiple facilities as in paragraph (i) of this section. The Director will release the

owner or operator from the requirements of this section after the owner or operator meets the criteria under paragraph (j) of this section.

(a) Closure Trust Fund. Owners and operators can use the “closure trust fund,” that is specified in Sections 264.143(a)(1) and (2), and 264.143(a)(6)–(11) of this Rule. For purposes of this paragraph, the following provisions also apply:

(1) Payments into the trust fund for a new facility must be made annually by the owner or operator over the remaining operating life of the facility as estimated in the closure plan, or over 3 years, whichever period is shorter. This period of time is hereafter referred to as the “pay-in period.”

(2) For a new facility, the first payment into the closure trust fund must be made before the facility may accept the initial storage. A receipt from the trustee must be submitted by the owner or operator to the Director before this initial storage of waste. The first payment must be at least equal to the current closure cost estimate, divided by the number of years in the pay-in period, except as provided in paragraph (h) of this section for multiple mechanisms. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The owner or operator determines the amount of each subsequent payment by subtracting the current value of the trust fund from the current closure cost estimate, and dividing this difference by the number of years remaining in the pay-in period. Mathematically, the formula is $\text{Next Payment} = (\text{Current Closure Estimate} - \text{Current Value of the Trust Fund}) \text{ Divided by Years Remaining in the Pay-In Period}$.

(3) The owner or operator of a facility existing on the effective date of this paragraph can establish a trust fund to meet this paragraph’s financial assurance requirements. If the value of the trust fund is less than the current closure cost estimate when a final approval of the permit is granted for the facility, the owner or operator must pay the difference into the trust fund within 60 days.

(4) The owner or operator may accelerate payments into the trust fund or deposit the full amount of the closure cost estimate when establishing the trust fund. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(2) or (a)(3) of this section.

(5) The owner or operator must submit a trust agreement with the wording specified in § 264.151(a)(1).

(b) Surety Bond Guaranteeing Payment into a Closure Trust Fund. Owners and operators can use the “surety bond guaranteeing payment into a closure trust fund,” as specified in § 264.143(b) of this Rule, including the use of the surety bond instrument specified at § 264.151(b), and the standby trust specified at § 264.143(b)(3).

(c) Surety Bond Guaranteeing Performance of Closure. Owners and operators can use the “surety bond guaranteeing performance of closure,” as specified in § 264.143(c), the submission and use of the surety bond instrument specified at § 264.151(c), and the standby trust specified at § 264.143(c)(3).

(d) Closure Letter of Credit. Owners and operators can use the “closure letter of credit” specified in § 264.143(d), the submission and use of the irrevocable letter of credit instrument specified in § 264.151(d), and the standby trust specified in § 264.143(d)(3).

(e) Closure Insurance. Owners and operators can use “closure insurance,” as specified in § 264.143(e), utilizing the certificate of insurance for closure specified at § 264.151(e).

(f) Corporate financial test. An owner or operator that satisfies the requirements of this

paragraph may demonstrate financial assurance up to the amount specified in this paragraph:

(1) Financial component.

(i) The owner or operator must satisfy one of the following three conditions:

(A) A current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; or

(B) A ratio of less than 1.5 comparing total liabilities to net worth; or

(C) A ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus \$10 million, to total liabilities.

(ii) The tangible net worth of the owner or operator must be greater than:

(A) The sum of the current environmental obligations (see paragraph (f)(2)(i)(A)(1) of this section), including guarantees, covered by a financial test plus \$10 million, except as provided in paragraph (f)(1)(ii)(B) of this section.

(B) \$10 million in tangible net worth plus the amount of any guarantees that have not been recognized as liabilities on the financial statements provided all of the environmental obligations (see paragraph (f)(2)(i)(A)(1) of this section) covered by a financial test are recognized as liabilities on the owner's or operator's audited financial statements, and subject to the approval of the Director.

(iii) The owner or operator must have assets located in the United States amounting to at least the sum of environmental obligations covered by a financial test as described in paragraph (f)(2)(i)(A)(1) of this section.

(2) Recordkeeping and reporting requirements.

(i) The owner or operator must submit the following items to the Director:

(A) A letter signed by the owner's or operator's chief financial officer that:

(1) Lists all the applicable current types, amounts, and sums of environmental obligations covered by a financial test. These obligations include both obligations in the programs which EPA directly operates and obligations where EPA has delegated authority to a State or approved a State's program. These obligations include, but are not limited to:

(i) Liability, closure, post-closure and corrective action cost estimates required for hazardous waste treatment, storage, and disposal facilities under §§ 264.101, 264.142, 264.144, 264.147, 265.142, 265.144, and 265.147 of this Rule;

(ii) Cost estimates required for municipal solid waste management facilities under 40 CFR 258.71, 258.72, and 258.73;

(iii) Current plugging cost estimates required for UIC facilities under 40 CFR 144.62;

(iv) Cost estimates required for petroleum underground storage tank facilities under 40 CFR 280.93;

(v) Cost estimates required for PCB storage facilities under 40 CFR 761.65;

(vi) Any financial assurance required under, or as part of an action undertaken under, the Comprehensive Environmental Response, Compensation, and Liability Act; and

(vii) Any other environmental obligations that are assured through a financial test.

(2) Provides evidence demonstrating that the firm meets the conditions of either paragraph (f)(1)(i)(A) or (f)(1)(i)(B) or (f)(1)(i)(C) of this section and paragraphs (f)(1)(ii) and (f)(1)(iii) of this section.

(B) A copy of the independent certified public accountant's unqualified opinion of the owner's or operator's financial statements for the latest completed fiscal year. To be eligible to use the financial test, the owner's or operator's financial statements must

receive an unqualified opinion from the independent certified public accountant. An adverse opinion, disclaimer of opinion, or other qualified opinion will be cause for disallowance, with the potential exception for qualified opinions provided in the next sentence. The Director may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the Director deems that the matters which form the basis for the qualification are insufficient to warrant disallowance of the test. If the Director does not allow use of the test, the owner or operator must provide alternate financial assurance that meets the requirements of this section within 30 days after the notification of disallowance.

(C) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies paragraph (f)(1)(i)(B) or (f)(1)(i)(C) of this section that are different from data in the audited financial statements referred to in paragraph (f)(2)(i)(B) of this section or any other audited financial statement or data filed with the SEC, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of that comparison, and the reasons for any differences.

(D) If the chief financial officer's letter provides a demonstration that the firm has assured for environmental obligations as provided in paragraph (f)(1)(ii)(B) of this section, then the letter shall include a report from the independent certified public accountant that verifies that all of the environmental obligations covered by a financial test have been recognized as liabilities on the audited financial statements, how these obligations have been measured and reported, and that the tangible net worth of the firm is at least \$10 million plus the amount of any guarantees provided.

(ii) The owner or operator of a new facility must submit the items specified in paragraph (f)(2)(i) of this section to the Director at least 60 days before placing waste in the facility.

(iii) After the initial submission of items specified in paragraph (f)(2)(i) of this section, the owner or operator must send updated information to the Director within 90 days following the close of the owner or operator's fiscal year. The Director may provide up to an additional 45 days for an owner or operator who can demonstrate that 90 days is insufficient time to acquire audited financial statements. The updated information must consist of all items specified in paragraph (f)(2)(i) of this section.

(iv) The owner or operator is no longer required to submit the items specified in this paragraph (f)(2) of this section or comply with the requirements of this paragraph (f) when:

(A) The owner or operator substitutes alternate financial assurance as specified in this section that is not subject to these recordkeeping and reporting requirements; or

(B) The Director releases the owner or operator from the requirements of this section in accordance with paragraph (j) of this section.

(v) An owner or operator who no longer meets the requirements of paragraph (f)(1) of this section cannot use the financial test to demonstrate financial assurance. Instead an

owner or operator who no longer meets the requirements of paragraph (f)(1) of this section, must:

(A) Send notice to the Director of intent to establish alternate financial assurance as specified in this section. The owner or operator must send this notice by certified mail within 90 days following the close the owner or operator's fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements of this section.

(B) Provide alternative financial assurance within 120 days after the end of such fiscal year.

(vi) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require at any time the owner or operator to provide reports of its financial condition in addition to or including current financial test documentation as specified in paragraph (f)(2) of this section. If the Director finds that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance that meets the requirements of this section.

(g) Corporate Guarantee.

(1) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraph (f) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording in § 264.151(h). The certified copy of the guarantee must accompany the letter from the guarantor's chief financial officer and accountants' opinions. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter from the guarantor's chief financial officer must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

(2) For a new facility, the guarantee must be effective and the guarantor must submit the items in paragraph (g)(1) of this section and the items specified in paragraph (f)(2)(i) of this section to the Director at least 60 days before the owner or operator places waste in the facility.

(3) The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform closure at a facility covered by the guarantee, the guarantor will:

(A) Perform, or pay a third party to perform closure (performance guarantee); or

(B) Establish a fully funded trust fund as specified in paragraph (a) of this section in the name of the owner or operator (payment guarantee).

(ii) The guarantee will remain in force for as long as the owner or operator must comply with the applicable financial assurance requirements of this subsection unless the guarantor sends prior notice of cancellation by certified mail to the owner or operator and to the Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or

operator and the Director as evidenced by the return receipts.

(iii) If notice of cancellation is given, the owner or operator must, within 90 days following receipt of the cancellation notice by the owner or operator and the Director, obtain alternate financial assurance, and submit documentation for that alternate financial assurance to the Director. If the owner or operator fails to provide alternate financial assurance and obtain the written approval of such alternative assurance from the Director within the 90-day period, the guarantor must provide that alternate assurance in the name of the owner or operator and submit the necessary documentation for the alternative assurance to the Director within 120 days of the cancellation notice.

(4) If a corporate guarantor no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must, within 90 days, obtain alternative assurance, and submit the assurance to the Director for approval. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within the next 30 days, and submit it to the Director for approval.

(5) The guarantor is no longer required to meet the requirements of this paragraph (g) when:

(i) The owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The owner or operator is released from the requirements of this section in accordance with paragraph (j) of this section.

(h) Use of Multiple Financial Mechanisms. An owner or operator may use more than one mechanism at a particular facility to satisfy the requirements of this section. The acceptable mechanisms are trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, insurance, the financial test, and the guarantee, except owners or operators cannot combine the financial test with the guarantee. The mechanisms must be as specified in paragraphs (a), (b), (d), (e), (f), and (g) respectively of this section, except it is the combination of mechanisms rather than a single mechanism that must provide assurance for an amount at least equal to the cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or letter of credit, he may use the trust fund as the standby trust for the other mechanisms. A single trust fund can be established for two or more mechanisms. The Director may use any or all of the mechanisms to provide for closure of the facility.

(i) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial mechanism for multiple facilities, as specified in § 264.143(h) of this Rule.

(j) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and an independent Arkansas-registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that the owner or operator is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Director has reason to believe that final closure has not been completed in accordance with the approved closure plan. The Director shall provide the owner or operator with a detailed written statement of any such reasons to believe that closure has not been conducted in accordance with the approved closure plan.

§ 267.144–267.146 [Reserved]

§ 267.147 Liability requirements.

(a) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment or storage facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraphs (a)(1) through (a)(7) of this section:

(1) Trust fund for liability coverage. An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in 40 CFR 264.147(j).

(2) Surety bond for liability coverage. An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in 40 CFR 264.147(i).

(3) Letter of credit for liability coverage. An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in 40 CFR 264.147(h).

(4) Insurance for liability coverage. An owner or operator may meet the requirements of this section by obtaining liability insurance as specified in 40 CFR 264.147(a)(1).

(5) Financial test for liability coverage. An owner or operator may meet the requirements of this section by passing a financial test as specified in paragraph (f) of this section.

(6) Guarantee for liability coverage. An owner or operator may meet the requirements of this section by obtaining a guarantee as specified in paragraph (g) of this section.

(7) Combination of mechanisms. An owner or operator may demonstrate the required liability coverage through the use of combinations of mechanisms as allowed by 40 CFR 264.147(a)(6).

(8) An owner or operator shall notify the Director in writing within 30 days whenever:

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(7) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(7) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (a)(7) of this section.

(b)–(d) [Reserved]

(e) Period of coverage. Within 60 days after receiving certifications from the owner or operator and an independent Arkansas-registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Director will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage from

that facility, unless the Director has reason to believe that closure has not been in accordance with the approved closure plan.

(f) Financial test for Liability Coverage. An owner or operator that satisfies the requirements of this paragraph (f) may demonstrate financial assurance for liability up to the amount specified in this paragraph (f):

(1) Financial component.

(i) If using the financial test for only liability coverage, the owner or operator must have tangible net worth greater than the sum of the liability coverage to be demonstrated by this test plus \$10 million.

(ii) The owner or operator must have assets located in the United States amounting to at least the amount of liability covered by this financial test.

(iii) An owner or operator who is demonstrating coverage for liability and any other environmental obligations, including closure under § 267.143(f), through a financial test must meet the requirements of § 267.143(f).

(2) Recordkeeping and reporting requirements.

(i) The owner or operator must submit the following items to the Director:

(A) A letter signed by the owner's or operator's chief financial officer that provides evidence demonstrating that the firm meets the conditions of paragraphs (f)(1)(i) and (f)(1)(ii) of this section. If the firm is providing only liability coverage through a financial test for a facility or facilities with a permit under § 267, the letter should use the wording in § 267.151(b). If the firm is providing only liability coverage through a financial test for facilities regulated under part 267 and also Section 264 or Section 265, it should use the letter in § 264.151(g). If the firm is providing liability coverage through a financial test for a facility or facilities with a permit under § 267, and it assures closure costs or any other environmental obligations through a financial test, it must use the letter in § 267.151(a) for the facilities issued a permit under § 267.

(B) A copy of the independent certified public accountant's unqualified opinion of the owner's or operator's financial statements for the latest completed fiscal year. To be eligible to use the financial test, the owner's or operator's financial statements must receive an unqualified opinion from the independent certified public accountant. An adverse opinion, disclaimer of opinion, or other qualified opinion will be cause for disallowance, with the potential exception for qualified opinions provided in the next sentence. The Director may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the Director deems that the matters which form the basis for the qualification are insufficient to warrant disallowance of the test. If the Director does not allow use of the test, the owner or operator must provide alternate financial assurance that meets the requirements of this section (§ 267.147) within 30 days after the notification of disallowance.

(C) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies paragraphs (f)(1)(i) and (ii) of this section that are different from data in the audited financial statements referred to in paragraph (f)(2)(i)(B) of this section or any other audited financial statement or data filed with the SEC, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in

accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of that comparison, and the reasons for any differences.

(ii) The owner or operator of a new facility must submit the items specified in paragraph (f)(2)(i) of this section to the Director at least 60 days before placing waste in the facility.

(iii) After the initial submission of items specified in paragraph (f)(2)(i) of this section, the owner or operator must send updated information to the Director within 90 days following the close of the owner or operator's fiscal year. The Director may provide up to an additional 45 days for an owner or operator who can demonstrate that 90 days is insufficient time to acquire audited financial statements. The updated information must consist of all items specified in paragraph (f)(2)(i) of this section.

(iv) The owner or operator is no longer required to submit the items specified in this paragraph (f)(2) or comply with the requirements of this paragraph (f) when:

(A) The owner or operator substitutes alternate financial assurance as specified in this section that is not subject to these recordkeeping and reporting requirements; or

(B) The Director releases the owner or operator from the requirements of this section in accordance with paragraph (j) of this section.

(v) An owner or operator who no longer meets the requirements of paragraph (f)(1) of this section cannot use the financial test to demonstrate financial assurance. An owner or operator who no longer meets the requirements of paragraph (f)(1) of this section, must:

(A) Send notice to the Director of intent to establish alternate financial assurance as specified in this section. The owner or operator must send this notice by certified mail within 90 days following the close of the owner or operator's fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements of this section.

(B) Provide alternative financial within 120 days after the end of such fiscal year.

(vi) The Director may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require at any time the owner or operator to provide reports of its financial condition in addition to or including current financial test documentation as specified in paragraph (f)(2) of this section. If the Director finds that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance that meets the requirements of this section.

(g) Guarantee for liability coverage. (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(3) of this section. The wording of the guarantee must be identical to the wording specified in 40 CFR 264.151(h)(2). A certified copy of the guarantee must accompany the items sent to the Director as specified in paragraph (f)(2) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent

corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a “substantial business relationship” with the owner or operator, this letter must describe this “substantial business relationship” and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden accidental occurrences arising from the operation guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of the State in which the guarantor is incorporated, and each State in which a facility covered by the guarantee is located, have submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if:

(A) The non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business; and

(B) The Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

§ 267.148 Incapacity of owners or operators, guarantors, or financial institutions

(a) An owner or operator must notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 267.143(g) and 267.147 (g) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 267.143 or § 267.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 267.149 [Reserved]

§ 267.150 State assumption of responsibility

(a) If a State either assumes legal responsibility for an owner's or operator's compliance with the closure care or liability requirements of this section or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 267.143 or § 267.147 if the Director determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this subsection. The Director will evaluate the equivalency of State guarantees principally in terms of: Certainty of the availability of funds for the required closure care activities or liability coverage; and the amount of funds that will be made available. The Director may also consider other factors as he deems appropriate. The owner or operator must submit to the Director a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this subsection. The letter from the State must include, or have attached to it, the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure care or liability coverage that are guaranteed by the State. The Director will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this subsection. The Director may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 267.143 or § 267.147, as applicable.

(b) If a State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subsection by use of both the State's assurance and additional financial mechanisms as specified in this subsection. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subsection.

§ 267.151 Wording of the instruments

(a) The chief financial officer of an owner or operator of a facility with a standardized permit who uses a financial test to demonstrate financial assurance for that facility must complete a letter as specified in § 267.143(f) of this Rule. The letter must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for closure costs, as specified in [insert "subsection H of Rule No. 23 § 267" or the citation to the corresponding state rule]. This firm qualifies for the financial test on the basis of having [insert "a current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's" or "a ratio of less than 1.50 comparing total liabilities to net worth" or "a ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus \$10 million, to total liabilities."]

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[If this firm qualifies on the basis of its bond rating fill in the requested information: “This firm has a rating of its senior unsecured debt of”[insert the bond rating] “from” [insert “Standard and Poor’s” or “Moody’s”].

Complete Line 1. Total Liabilities below and then skip the remaining questions in the next section and resume completing the form at the section entitled Obligations Covered by a Financial Test or Corporate Guarantee.]

[If this firm qualifies for the financial test on the basis of its ratio of liabilities to net worth, or sum of income, depreciation, depletion, and amortization to net worth, please complete the following section.]

- *1. Total Liabilities \$ _____
- *2. Net Worth \$ _____
- *3. Net Income \$ _____
- *4. Depreciation \$ _____
- *5. Depletion (if applicable) \$ _____
- *6. Amortization \$ _____
- *7. Sum of Lines 3., 4., 5. & 6 \$ _____

[If the above figures are taken directly from the most recent audited financial statements for this firm insert “The above figures are taken directly from the most recent audited financial statements for this firm.” If they are not, insert “The following items are not taken directly from the firms most recent audited financial statements” [insert the numbers of the items and attach an explanation of how they were derived.]

[Complete the following calculations]

8. Line 1. ??Line 2. = _____

9. Line 7. ??Line 1. = _____

Is Line 8. less than 1.5? ☐ Yes ☐ No

Is Line 9 greater than 0.10? ☐ Yes ☐ No

[If you did not answer Yes to either of these two questions, you cannot use the financial test and need not complete this letter. Instead, you must notify the permitting authority for the facility that you intend to establish alternate financial assurance as specified in 40 CFR 267.143. The owner or operator must send this notice by certified mail within 90 days following the close of the owner or operator’s fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements of this section. The owner or operator must also provide alternative financial assurance within 120 days after the end of such fiscal year.]

Obligations Covered by a Financial Test or Corporate Guarantee

[On the following lines list all obligations that are covered by a financial test or a corporate guarantee extended by your firm. You may add additional lines and leave blank entries that do not apply to your situation.]

Hazardous Waste Facility Name and ID State Closure Post-Closure Corrective Action

Hazardous Waste Third Party Liability \$
Municipal Waste Facilities State Closure Post-Closure Corrective Action

Underground Injection Control State Plugging Action

Petroleum Underground Storage Tanks

PCB Storage Facility Name and ID State Closure

Any financial assurance required under, or as part of an action undertaken under, the Comprehensive Environmental Response, Compensation, and Liability Act.

Site name State Amount

_____ \$ _____

Any other environmental obligations that are assured through a financial test.

Name Amount

_____ \$ _____

*10. Total of all amounts \$ _____

*11. Line 10 + \$10,000,000 = \$ _____

*12. Total Assets \$ _____

*13. Intangible Assets \$ _____

*14. Tangible Assets (Line 12.¥Line 13) \$ _____

*15. Tangible Net Worth (Line 14.¥Line 1.) \$ _____

*16. Assets in the United States \$ _____

Is Line 15 greater than Line 11? ___Yes ___No

Is Line 16 no less than Line 10? ___Yes ___No

[You must be able to answer Yes to both these questions to use the financial test for this facility.]

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 267.151 as such regulations were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____

[After completion, a signed copy of the form must be sent to the permitting authority of the state or territory where the facility is located. In addition, a signed copy must be sent to every authority who (1) requires a demonstration through a financial test for each of the other obligations in the letter that are assured through a financial test, or (2) accepts a guarantee for an obligation listed in this letter.]

(b)The chief financial officer of an owner or operator of a facility with a standardized permit who use a financial test to demonstrate financial assurance only for third party liability for that (or

other standardized permit) facility(ies) must complete a letter as specified in Section 267.147(f) of this Rule. The letter must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for third party liability, as specified in [insert "subsection H of 40 CFR section 267" or the citation to the corresponding state rules]. This firm qualifies for the financial test on the basis of having tangible net worth of at least \$10 million more than the amount of liability coverage and assets in the United States of at least the amount of liability coverage.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Please complete the following section.]

*1. Total Assets \$ _____

*2. Intangible Assets \$ _____

*3. Tangible Assets (Line 1~~¥~~Line 2) \$ _____

*4. Total Liabilities \$ _____

5. Tangible Net Worth (Line 3~~¥~~Line 4) \$ _____

*6. Assets in the United States \$ _____

7. Amount of liability coverage \$ _____

Is Line 5 At least \$10 million greater than Line 7? ☐ Yes ☐ No

Is Line 6 at least equal to Line 7? ☐ Yes ☐ No

[You must be able to answer Yes to both these questions to use the financial test for this facility.]

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 267.151 as such regulations were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____

[After completion, a signed copy of the form must be sent to the permitting authority of the state or territory where the facility(ies) is(are) located.]

Subsection I—Use and Management of Containers

§ 267.170 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste in containers under a 40 CFR section 270 subsection J standardized permit, except as provided in § 267.1(b).

§ 267.171 What standards apply to the containers?

Standards apply to the condition of the containers, to the compatibility of waste with the containers, and to the management of the containers.

(a) Condition of containers. If a container holding hazardous waste is not in good condition (for example, it exhibits severe rusting or apparent structural defects) or if it begins to leak, you must either:

- (1) Transfer the hazardous waste from this container to a container that is in good condition; or
- (2) Manage the waste in some other way that complies with the requirements of this section.

(b) Compatibility of waste with containers. To ensure that the ability of the container to contain the waste is not impaired, you must use a container made of or lined with materials that are compatible and will not react with the hazardous waste to be stored.

(c) Management of containers. (1) You must always keep a container holding hazardous waste closed during storage, except when you add or remove waste.

- (2) You must never open, handle, or store a container holding hazardous waste in a manner that may rupture the container or cause it to leak.

§ 267.172 What are the inspection requirements?

At least weekly, you must inspect areas where you store containers, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

§ 267.173 What standards apply to the container storage areas?

(a) You must design and operate a containment system for your container storage areas according to the requirements in paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section.

(b) The design and operating requirements for a containment system are:

- (1) A base must underlie the containers that is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.

- (2) The base must be sloped or the containment system, must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids.

- (3) The containment system must have sufficient capacity to contain 10% of the volume of containers, or the volume of the largest container, whichever is greater. This requirement does not apply to containers that do not contain free liquids.

(4) You must prevent run-on into the containment system unless the collection system has sufficient excess capacity, in addition to that required in paragraph (b)(3) of this section, to contain the liquid.

(5) You must remove any spilled or leaked waste and accumulated precipitation from the sump or collection area as promptly as is necessary to prevent overflow of the collection system.

(c) Except as provided in paragraph (d) of this section, you do not need a containment system as defined in paragraph (b) of this section for storage areas that store containers holding only wastes with no free liquids, if:

(1) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation; or

(2) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(d) You must have a containment system defined by paragraph (b) of this section for storage areas that store containers holding F020, F021, F022, F023, F026, and F027 wastes, even if the wastes do not contain free liquids.

§ 267.174 What special requirements must I meet for ignitable or reactive waste?

You must locate containers holding ignitable or reactive waste at least 15 meters (50 feet) from your facility property line. You must also follow the general requirements for ignitable or reactive wastes that are specified in § 267.17(a).

§ 267.175 What special requirements must I meet for incompatible wastes?

(a) You must not place incompatible wastes, or incompatible wastes and materials (see appendix V to Section 264 for examples), in the same container, unless you comply with § 267.17(b).

(b) You must not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

(c) You must separate a storage container holding a hazardous waste that is incompatible with any waste or with other materials stored nearby in other containers, piles, open tanks, or surface impoundments from the other materials, or protect the containers by means of a dike, berm, wall, or other device.

§ 267.176 What must I do when I want to stop using the containers?

You must remove all hazardous waste and hazardous waste residues from the containment system. You must decontaminate or remove remaining containers, liners, bases, and soil containing, or contaminated with, hazardous waste or hazardous waste residues.

§ 267.177 What air emission standards apply?

You must manage all hazardous waste placed in a container according to the requirements of subsections AA, BB, and CC of Section 264 of this rule. Under a standardized permit, the following control devices are permissible: Thermal vapor incinerator, catalytic vapor incinerator, flame, boiler, process heater, condenser, and carbon absorption unit.

Subsection J—Tank Systems

§ 267.190 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste in above-ground or on-ground tanks under a Section 270 subsection J standardized permit, except as provided in § 267.1(b).

(a) You do not have to meet the secondary containment requirements in § 267.195 if your tank systems do not contain free liquids and are situated inside a building with an impermeable floor. You must demonstrate the absence or presence of free liquids in the stored/treated waste, using Method 9095B (Paint Filter Liquids Test) as described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule.

(b) You do not have to meet the secondary containment requirements of § 267.195(a) if your tank system, including sumps, as defined in § 260.10 of this rule, is part of a secondary containment system to collect or contain releases of hazardous wastes.

§ 267.191 What are the required design and construction standards for new tank systems or components?

You must ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. You must obtain a written assessment, reviewed and certified by an independent, qualified Arkansas-registered professional engineer, following § 270.11(d) of this rule, attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment must include, at a minimum, the following information:

- (a) Design standard(s) for the construction of tank(s) and/or the ancillary equipment.
- (b) Hazardous characteristics of the waste(s) to be handled.
- (c) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:
 - (1) Factors affecting the potential for corrosion, such as:
 - (i) Soil moisture content.
 - (ii) Soil pH.
 - (iii) Soil sulfides level.
 - (iv) Soil resistivity.
 - (v) Structure to soil potential.
 - (vi) Existence of stray electric current.
 - (vii) Existing corrosion-protection measures (for example, coating, cathodic protection).
 - (2) The type and degree of external corrosion protection needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of

the following:

- (i) Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc.
 - (ii) Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (for example, impressed current or sacrificial anodes) and
 - (iii) Electrical isolation devices such as insulating joints, flanges, etc.
- (d) Design considerations to ensure that:
- (1) Tank foundations will maintain the load of a full tank.
 - (2) Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of § 267.18(a).
 - (3) Tank systems will withstand the effects of frost heave.

§ 267.192 What handling and inspection procedures must I follow during installation of new tank systems?

(a) You must ensure that you follow proper handling procedures to prevent damage to a new tank system during installation. Before placing a new tank system or component in use, an independent, qualified installation inspector or an *independent, qualified, Arkansas-registered professional engineer*, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of any of the following items:

- (1) Weld breaks.
 - (2) Punctures.
 - (3) Scrapes of protective coatings.
 - (4) Cracks.
 - (5) Corrosion.
 - (6) Other structural damage or inadequate construction/installation.
- (b) You must remedy all discrepancies before the tank system is placed in use.

§ 267.193 What testing must I do?

You must test all new tanks and ancillary equipment for tightness before you place them in use. If you find a tank system that is not tight, you must perform all repairs necessary to remedy the leak(s) in the system before you cover, enclose, or place the tank system into use.

§ 267.194 What installation requirements must I follow?

- (a) You must support and protect ancillary equipment against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.
- (b) You must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under § 267.191(c), to ensure the integrity of the tank system during use of the tank system. An independent corrosion expert must supervise the installation of a corrosion protection system that is field fabricated to ensure proper

installation.

(c) You must obtain, and keep at the facility, written statements by those persons required to certify the design of the tank system and to supervise the installation of the tank system as required in §§ 267.192, 267.193, and paragraphs (a) and (b) of this section. The written statement must attest that the tank system was properly designed and installed and that you made repairs under §§ 267.192 and 267.193. These written statements must also include the certification statement as required in § 270.11(d).

§ 267.195 What are the secondary containment requirements?

To prevent the release of hazardous waste or hazardous constituents to the environment, you must provide secondary containment that meets the requirements of this section for all new and existing tank systems.

(a) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(b) To meet the requirements of paragraph (a) of this section, secondary containment systems must be, at a minimum:

(1) Constructed of or lined with materials that are compatible with the wastes(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic).

(2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift.

(3) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours.

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. You must remove spilled or leaked waste and accumulated precipitation from the secondary containment system within 24 hours, or as promptly as possible, to prevent harm to human health and the environment.

§ 267.196 What are the required devices for secondary containment and what are their design, operating and installation requirements?

(a) Secondary containment for tanks must include one or more of the following:

(1) A liner (external to the tank).

(2) A double-walled tank.

(3) An equivalent device; you must maintain documentation of equivalency at the facility.

(b) External liner systems must be:

(1) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary.

(2) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. The additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

(3) Free of cracks or gaps.

(4) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (that is, capable of preventing lateral as well as vertical migration of the waste).

(c) Double-walled tanks must be:

(1) Designed as an integral structure (that is, an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell.

(2) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell.

(3) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours.

§ 267.197 What are the requirements for ancillary equipment?

You must provide ancillary equipment with secondary containment (for example, trench, jacketing, double walled piping) that meets the requirements of § 267.195 (a) and (b), except for:

(a) Above ground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

(b) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(c) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(d) Pressurized above ground piping systems with automatic shut-off devices (for example, excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

§ 267.198 What are the general operating requirements for my tank systems?

(a) You must not place hazardous wastes or treatment reagents in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

(b) You must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include, at a minimum:

(1) Spill prevention controls (for example, check valves, dry disconnect couplings).

(2) Overfill prevention controls (for example, level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank).

(3) Sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) You must comply with the requirements of § 267.200 if a leak or spill occurs in the tank system.

§ 267.199 What inspection requirements must I meet?

You must comply with the following requirements for scheduling, conducting, and documenting inspections.

- (a) Develop and follow a schedule and procedure for inspecting overfill controls.
- (b) Inspect at least once each operating day:
 - (1) Aboveground portions of the tank system to detect corrosion or releases of waste.
 - (2) Data gathered from monitoring and leak detection equipment (for example, pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design.
 - (3) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (for example, dikes) to detect erosion or signs of releases of hazardous waste (for example, wet spots, dead vegetation).
- (c) Inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:
 - (1) Confirm that the cathodic protection system is operating properly within six months after initial installation and annually thereafter.
 - (2) Inspect and/or test all sources of impressed current, as appropriate, at least every other month.
- (d) Document, in the operating record of the facility, an inspection of those items in paragraphs (a) through (c) of this section.

§ 267.200 What must I do in case of a leak or a spill?

If there has been a leak or a spill from a tank system or secondary containment system, or if either system is unfit for use, you must remove the system from service immediately, and you must satisfy the following requirements:

- (a) Immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.
- (b) Remove the waste from the tank system or secondary containment system.
 - (1) If the release was from the tank system, you must, within 24 hours after detecting the leak, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.
 - (2) If the material released was to a secondary containment system, you must remove all released materials within 24 hours or as quickly as possible to prevent harm to human health and the environment.
- (c) Immediately conduct a visual inspection of the release and, based upon that inspection:
 - (1) Prevent further migration of the leak or spill to soils or surface water.
 - (2) Remove, and properly dispose of, any visible contamination of the soil or surface water.
- (d) Report any release to the environment, except as provided in paragraph (d)(1) of this section,

to the Director within 24 hours of its detection. If you have reported the release pursuant to 40 CFR part 302, that report will satisfy this requirement.

- (1) You need not report on a leak or spill of hazardous waste if it is:
 - (i) Less than or equal to a quantity of one (1) pound; and
 - (ii) Immediately contained and cleaned up.
- (2) Within 30 days of detection of a release to the environment, you must submit a report to the Director containing the following information:
 - (i) The likely route of migration of the release.
 - (ii) The characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate).
 - (iii) The results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, you must submit these data to the Director as soon as they become available.
 - (iv) The proximity to down gradient drinking water, surface water, and populated areas.
 - (v) A description of response actions taken or planned.
- (e) Either close the system or make necessary repairs.
 - (1) Unless you satisfy the requirements of paragraphs (e)(2) and (3) of this section, you must close the tank system according to § 267.201.
 - (2) If the cause of the release was a spill that has not damaged the integrity of the system, you may return the system to service as soon as you remove the released waste and make any necessary repairs.
 - (3) If the cause of the release was a leak from the primary tank system into the secondary containment system, you must repair the system before returning the tank system to service.
- (f) If you have made extensive repairs to a tank system in accordance with paragraph (e) of this section (for example, installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), you may not return the tank system to service unless the repair is certified by an *independent, qualified, Arkansas-registered, professional engineer* in accordance with § 270.11(d).
 - (1) The engineer must certify that the repaired system is capable of handling hazardous wastes without release for the intended life of the system.
 - (2) You must submit this certification to the Director within seven days after returning the tank system to use.

§ 267.201 What must I do when I stop operating the tank system?

When you close a tank system, you must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless 40 CFR 261.3(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in subsections G and H of this section.

§ 267.202 What special requirements must I meet for ignitable or reactive wastes?

- (a) You may not place ignitable or reactive waste in tank systems, unless:
 - (1) You treat, render, or mix the waste before or immediately after placement in the tank system so that:
 - (i) You comply with § 267.17(b); and (ii) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this Rule; or
 - (2) You store or treat the waste in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or
 - (3) You use the tank system solely for emergencies.
- (b) If you store or treat ignitable or reactive waste in a tank, you must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2–1 through 2–6 of the National Fire Protection Association’s “Flammable and Combustible Liquids Code,” (1977 or 1981), (incorporated by reference, see § 260.11).

§ 267.203 What special requirements must I meet for incompatible wastes?

- (a) You may not place incompatible wastes, or incompatible wastes and materials, in the same tank system, unless you comply with § 267.17(b).
- (b) You may not place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless you comply with § 267.17(b).

§ 267.204 What air emission standards apply?

You must manage all hazardous waste placed in a tank following the requirements of subsections AA, BB, and CC of Section 264 of this Rule. Under a standardized permit, the following control devices are permissible: Thermal vapor incinerator, catalytic vapor incinerator, flame, boiler, process heater, condenser, and carbon absorption unit.

Subsections K through CC [Reserved]

Subsection DD—Containment buildings

§ 267.1100 Does this subsection apply to me?

This subsection applies to you if you own or operate a facility that treats or stores hazardous waste in containment buildings under a Section 270 subsection J standardized permit, except as provided in § 267.1(b). Storage and/or treatment in your containment building is not land disposal as defined in § 268.2 if your unit meets the requirements of §§ 267.1101, 267.1102, and 267.1103.

§ 267.1101 What design and operating standards must my containment building meet?

Your containment building must comply with the design and operating standards in this section. The Division will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this

section.

(a) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(b) The floor and containment walls of the unit, including the secondary containment system, if required under § 267.1103, must be designed and sufficient strength and thickness to:

(1) Support themselves, the waste contents, and any personnel and heavy equipment that operates within the unit.

(2) Prevent failure due to:

(i) Pressure gradients, settlement, compression, or uplift.

(ii) Physical contact with the hazardous wastes to which they are exposed.

(iii) Climatic conditions.

(iv) Stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls.

(v) Collapse or other failure.

(c) All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes.

(d) You must not place incompatible hazardous wastes or treatment reagents in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(e) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(f) If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

(1) They provide an effective barrier against fugitive dust emissions under § 267.1102(d).

(2) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(g) You must inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment, as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(h) You must obtain certification by a *independent qualified Arkansas-registered professional engineer* that the containment building design meets the requirements of §§ 267.1102, 267.1103, and paragraphs (a) through (f) of this section.

§ 267.1102 What other requirements must I meet to prevent releases?

You must use controls and practices to ensure containment of the hazardous waste within the unit, and must, at a minimum:

(a) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier.

(b) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded.

(c) Take measures to prevent personnel or by equipment used in handling the waste from tracking hazardous waste out of the unit. You must designate an area to decontaminate equipment, and you must collect and properly manage any rinsate.

(d) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 CFR part 60, appendix A, Method 22—Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares). In addition, you must operate and maintain all associated particulate collection devices (for example, fabric filter, electrostatic precipitator) with sound air pollution control practices. You must effectively maintain this state of no visible emissions at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the unit.

§ 267.1103 What additional design and operating standards apply if liquids will be in my containment building?

If your containment building will be used to manage hazardous wastes containing free liquids or treated with free liquids, as determined by the paint filter test, by a visual examination, or by other appropriate means, you must include:

(a) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (for example, a geomembrane covered by a concrete wear surface).

(b) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building.

(1) The primary barrier must be sloped to drain liquids to the associated collection system; and

(2) You must collect and remove liquids and waste to minimize hydraulic head on the containment system at the earliest practicable time.

(c) A secondary containment system, including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practical time.

(1) You may meet the requirements of the leak detection component of the secondary containment system by installing a system that is, at a minimum:

(i) Constructed with a bottom slope of 1 percent or more; and

(ii) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more.

(2) If you will be conducting treatment in the building, you must design the area in which the treatment will be conducted to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(3) You must construct the secondary containment system using materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building.

§ 267.1104 How may I obtain a waiver from secondary containment requirements?

Notwithstanding any other provision of this subsection, the Director may waive requirements for secondary containment for a permitted containment building where:

- (a) You demonstrate that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and
- (b) Containment of managed wastes and dust suppression liquids can be assured without a secondary containment system.

§ 267.1105 What do I do if my containment building contains areas both with and without secondary containment?

For these containment buildings, you must:

- (a) Design and operate each area in accordance with the requirements enumerated in §§ 267.1101 through 267.1103.
- (b) Take measures to prevent the release of liquids or wet materials into areas without secondary containment.
- (c) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

§ 267.1106 What do I do if I detect a release?

Throughout the active life of the containment building, if you detect a condition that could lead to or has caused a release of hazardous waste, you must repair the condition promptly, in accordance with the following procedures.

- (a) Upon detection of a condition that has led to a release of hazardous waste (for example, upon detection of leakage from the primary barrier), you must:
 - (1) Enter a record of the discovery in the facility operating record;
 - (2) Immediately remove the portion of the containment building affected by the condition from service;
 - (3) Determine what steps you must take to repair the containment building, to remove any leakage from the secondary collection system, and to establish a schedule for accomplishing the cleanup and repairs; and
 - (4) Within 7 days after the discovery of the condition, notify the Director of the condition, and within 14 working days, provide a written notice to the Director with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.
- (b) The Director will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify you of the determination and the underlying rationale in writing.
- (c) Upon completing all repairs and cleanup, you must notify the Director in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (a)(4) of this section.

§ 267.1107 Can a containment building itself be considered secondary containment?
Containment buildings can serve as secondary containment systems for tanks placed within the

building under certain conditions.

(a) A containment building can serve as an external liner system for a tank, provided it meets the requirements of § 267.196(a).

(b) The containment building must also meet the requirements of § 267.195(a), (b)(1) and (2) to be considered an acceptable secondary containment system for a tank.

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(a) A containment building can serve as an external liner system for a tank, provided it meets the requirements of §267.196(a).

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§ 267.1108 What must I do when I stop operating the containment building?

When you close a containment building, you must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate and manage them as hazardous waste unless 40 CFR 261.3(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in subsections G and H of this section.

Section 268 -- LAND DISPOSAL RESTRICTIONS

Subsection A – General

§ 268.1 Purpose, scope, and applicability.

§ 268.2 Definitions applicable in this Section.

§ 268.3 Dilution prohibited as a substitute for treatment.

§ 268.4 Treatment surface impoundment exemption.

§ 268.5 Procedures for case-by-case extensions to an effective date.

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- § 268.41 Treatment standards expressed as concentrations in waste extract.
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- § 268.46 Alternative treatment standards based on HTMR.
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Subsection E -- Prohibitions on Storage

- § 268.50 Prohibitions on storage of restricted wastes.

Appendices to Section 268

- Appendix I Reserved
- Appendix II Reserved
- Appendix III Reserved
- Appendix IV to Section 268 -- Organometallic Lab Packs
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- Appendix VI to Section 268 -- Recommended Technologies to Achieve Deactivation of Characteristics in Section 268.42
- Appendix VII to Section 268 -- Effective Dates of Surface Disposed Wastes Regulated in the LDRs
- Appendix VIII to Section 268 -- National Capacity LDR Variances for UIC Wastes Comprehensive List
- Appendix IX to Section 268 -- Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test (Method 1310)
- Appendix X -- Reserved
- Appendix XI to Section 268 -- Metal Bearing Wastes Prohibited from Dilution in a Combustion Unit According to § 268.3(c)(1)

Subsection A – General

§ 268.1 Purpose, scope and applicability

(a) This section identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.

(b) Except as specifically provided otherwise in this section or Section 261 of this rule, the requirements of this section apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

(c) Restricted wastes may continue to be land disposed as follows:

(1) Where persons have been granted an extension to the effective date of a prohibition under Subsection C of this section or pursuant to § 268.5, with respect to those wastes covered by the extension;

(2) Where persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under this Section, or 40 CFR Part 148, are not prohibited if the wastes:

(i) Are disposed into a nonhazardous or hazardous injection well as defined under 40 CFR 146.6(a); and

(ii) Do not exhibit any prohibited characteristic of hazardous waste identified in 40 CFR 261, subpart C at the point of injection.

(4) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under this part, are not prohibited if the wastes meet any of the following criteria, unless the wastes are subject to a specified method of treatment other than DEACT in § 268.40, or are D003 reactive cyanide:

(i) The wastes are managed in a treatment system which subsequently discharges to waters of the U.S. pursuant to a permit issued under section 402 of the Clean Water Act; or

(ii) The wastes are treated for purposes of the pretreatment requirements of section 307 of the Clean Water Act; or

(iii) The wastes are managed in a zero discharge system engaged in Clean Water Act-equivalent treatment as defined in § 268.37(a); and

(iv) The wastes no longer exhibit a prohibited characteristic at the point of land disposal (i.e., placement in a surface impoundment).

(d) The requirements of this section shall not affect the availability of a waiver under section 121(d)(4) of the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

(e) The following hazardous wastes are not subject to any provision of Section 268:

(1) Waste generated by very small quantity generators, as defined in § 260.10 of this rule;

(2) Waste pesticides that a farmer disposes of pursuant to § 262.70;

(3) Wastes identified or listed as hazardous after November 8, 1984 for which EPA has not

promulgated land disposal prohibitions or treatment standards;

(4) De minimis losses of characteristic wastes to wastewaters are not considered to be prohibited wastes and are defined as losses from normal material handling operations (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; and relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; rinsate from empty containers or from containers that are rendered empty by that rinsing; and laboratory wastes not exceeding one per cent of the total flow of wastewater into the facility's headworks on an annual basis, or with a combined annualized average concentration not exceeding one part per million in the headworks of the facility's wastewater treatment or pretreatment facility.

(f) Universal waste handlers and universal waste transporters (as defined in § 260.10) are exempt from § 268.7 and 268.50 for the hazardous wastes listed below. These handlers are subject to regulation under § 273.

- (1) Batteries as described in § 273.2;
- (2) Pesticides as described in § 273.3 of this rule;
- (3) Mercury-containing devices as described in § 273.4 of this rule;
- (4) Lamps as described in § 273.5 of this rule; and
- (5) *Consumer electronic items as described in § 273.6.*

§ 268.2 Definitions applicable in this section.

When used in this section, the following terms have the meanings given below:

(a) "Halogenated organic compounds" or "HOCs" means those compounds having a carbon-halogen bond which are listed under Appendix III to this section.

(b) "Hazardous constituent or constituents" means those constituents listed in Appendix VIII to section 261 of this rule.

(c) "Land disposal" means placement in or on the land, except in a corrective action management unit or staging pile, and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault, or bunker intended for disposal purposes.

(d) "Nonwastewaters" are wastes that do not meet the criteria for wastewaters in paragraph (f) of this section.

(e) "Polychlorinated biphenyls" or "PCBs" are halogenated organic compounds defined in accordance with 40 CFR 761.3.

(f) "Wastewaters" are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS).

(g) "Debris" means solid material exceeding a 60 mm particle size that is intended for disposal and that is: a manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in Subsection D, Section 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste

that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by § 268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

(h) “Hazardous debris” means debris that contains a hazardous waste listed in subsection D of section 261 of this rule, or that exhibits a characteristic of hazardous waste identified in subsection C of section 261 of this rule. Any deliberate mixing of prohibited hazardous waste with debris that changes its treatment classification (i.e., from waste to hazardous debris) is not allowed under the dilution prohibition in § 268.3.

(i) “Underlying hazardous constituent” means any constituent listed in § 268.48, Table UTS-Universal Treatment Standards, except fluoride, selenium, sulfides, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standard.

(j) “Inorganic metal-bearing waste” is one for which EPA has established treatment standards for metal hazardous constituents, and which does not otherwise contain significant organic or cyanide content as described in § 268.3(c)(1), and is specifically listed in Appendix XI of this section.

(k) “Soil” means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S. Natural Resources Conservation Service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil by volume based on visual inspection. Any deliberate mixing of prohibited hazardous waste with soil that changes its treatment classification (i.e., from waste to contaminated soil) is not allowed under the dilution prohibition in § 268.3.

§ 268.3 Dilution prohibited as a substitute for treatment

(a) Except as provided in paragraph (b) of this section, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with subsection D of this section, to circumvent the effective date of a prohibition in subsection C of this section, to otherwise avoid a prohibition in subsection C of this section, or to circumvent a land disposal prohibition imposed by RCRA section 3004.

(b) Dilution of wastes that are hazardous only because they exhibit a characteristic in treatment systems which include land-based units which treat wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act (CWA), or which treat wastes in a CWA-equivalent treatment system, or which treat wastes for the purposes of pretreatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this section unless a method other than DEACT has been specified in § 268.40 as the treatment standard, or unless the waste is a D003 reactive cyanide wastewater or nonwastewater.

(c) Combustion of the hazardous waste codes listed in Appendix XI of this Section is prohibited, unless the waste, at the point of generation, or after any bona fide treatment such as cyanide destruction prior to combustion, can be demonstrated to comply with one or more of the following criteria (unless otherwise specifically prohibited from combustion):

- (1) the waste contains hazardous organic constituents or cyanide at levels exceeding the constituent-specific treatment standard found in § 268.48;

- (2) The waste consists of organic, debris-like materials (e.g., wood, paper, plastic, or cloth) contaminated with an inorganic metal-bearing hazardous waste;
 - (3) The waste, at point of generation, has reasonable heating value such as greater than or equal to 5000 BTU per pound;
 - (4) The waste is co-generated with wastes for which combustion is a required method of treatment;
 - (5) The waste is subject to Federal and/or State requirements necessitating reduction of organics (including biological agents); or
 - (6) The waste contains greater than 1% Total Organic Carbon (TOC).
- (d) It is a form of impermissible dilution, and therefore prohibited, to add iron filings or other metallic forms of iron to lead-containing hazardous wastes in order to achieve any land disposal restriction treatment standard for lead. Lead-containing wastes include D008 wastes (wastes exhibiting a characteristic due to the presence of lead), all characteristic wastes containing lead as an underlying hazardous constituent, listed wastes containing lead as a regulated constituent, and hazardous media containing any of the aforementioned lead-containing wastes.

§ 268.4 Treatment surface impoundment exemption.

- (a) Wastes which are otherwise prohibited from land disposal under this section may be treated in a surface impoundment or series of impoundments provided that:
- (1) Treatment of such wastes occurs in the impoundments;
 - (2) The following conditions are met:
 - (i) Sampling and testing. For wastes with treatment standards in Subsection D of this section and/or prohibition levels in Subsection C of this section or RCRA section 3004(d), the residues from treatment are analyzed, as specified in § 268.7 or § 268.32, to determine if they meet the applicable treatment standards or where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling method, specified in the waste analysis plan under § 264.13 or § 265.13, must be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples.
 - (ii) Removal. The following treatment residues (including any liquid waste) must be removed at least annually; residues which do not meet the treatment standards promulgated under subsection D of this section; residues which do not meet the prohibition levels established under subsection C of this section or imposed by statute (where no treatment standards have been established); residues which are from the treatment of wastes prohibited from land disposal under subsection C of this section (where no treatment standards have been established and no prohibition levels apply); or residues from managing listed wastes which are not delisted under § 260.22 of this rule. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flow-through constitutes removal of the supernatant for the purpose of this requirement.
 - (iii) Subsequent management. Treatment residues may not be placed in any other surface impoundment for subsequent management.
 - (iv) Recordkeeping: Sampling and testing and recordkeeping provisions of §§ 264.13 and 265.13 of this rule apply.

(3) The impoundment meets the design requirements of § 264.221(c) or § 265.221(a) of this rule, regardless that the unit may not be new, expanded, or a replacement, and be in compliance with applicable ground water monitoring requirements of Subsection F of Section 264 or Section 265 of this rule unless:

(i) Exempted pursuant to § 264.221 (d) or (e) of this rule, or to § 265.221 (c) or (d) of this rule; or,

(ii) Upon application by the owner or operator, the Director, after notice and an opportunity to comment, has granted a waiver of the requirements on the basis that the surface impoundment:

(A) Has at least one liner, for which there is no evidence that such liner is leaking;

(B) Is located more than one-quarter mile from an underground source of drinking water; and

(C) Is in compliance with generally applicable ground water monitoring requirements for facilities with permits; or,

(iii) Upon application by the owner or operator, the Director, after notice and an opportunity to comment, has granted a modification to the requirements on the basis of a demonstration that the surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(4) The owner or operator submits to the Director a written certification that the requirements of § 268.4(a)(3) have been met. The following certification is required:

I certify under penalty of law that the requirements of Rule No. 23 § 268.4(a)(3) have been met for all surface impoundments being used to treat restricted wastes. I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(b) Evaporation of hazardous constituents as the principal means of treatment is not considered to be treatment for purposes of an exemption under this section.

§ 268.5 Procedures for case-by-case extensions to an effective date.

(a) Any person who generates, treats, stores, or disposes of a hazardous waste may submit an application to the EPA Administrator for an extension to the effective date of any applicable restriction established under Subsection C of this section. The applicant must demonstrate the following:

(1) He has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste in accordance with the effective date of the applicable restriction established under Subsection C of this section;

(2) He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (e.g., recycling), or disposal capacity that meets the treatment standards specified in Subsection D or, where treatment standards have not been specified, such treatment, recovery, or disposal capacity is protective of human health and the environment.

(3) Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective

date;

(4) The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application;

(5) He provides a detailed schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available;

(6) He has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and

(7) Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of paragraph (h)(2) of this section.

(b) An authorized representative signing an application described under paragraph (a) of this section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

(c) After receiving an application for an extension, the Administrator may request any additional information which he deems as necessary to evaluate the application.

(d) An extension will apply only to the waste generated at the individual facility covered by the application and will not apply to restricted waste from any other facility.

(e) On the basis of the information referred to in paragraph (a) of this section, after notice and opportunity for comment, and after consultation with appropriate State agencies in all affected States, the Administrator may grant an extension of up to 1 year from the effective date. The Administrator may renew this extension for up to 1 additional year upon the request of the applicant if the demonstration required in paragraph (a) of this section can still be made. In no event will an extension extend beyond 24 months from the applicable effective date specified in Subsection C of section 268. The length of any extension authorized will be determined by the Administrator based on the time required to construct or obtain the type of capacity needed by the applicant as described in the completion schedule discussed in paragraph (a)(5) of this section. The Administrator will give public notice of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the *Federal Register*.

(f) Any person granted an extension under this section must immediately notify the Administrator as soon as he has knowledge of any change in the conditions certified to in the application.

(g) Any person granted an extension under this section shall submit written progress reports at intervals designated by the Administrator. Such reports must describe the overall progress made toward constructing or otherwise providing alternative treatment, recovery or disposal capacity; must identify any event which may cause or has caused a delay in the development of the capacity; and must summarize the steps taken to mitigate the delay. The Administrator can revoke the extension at any time if the applicant does not demonstrate a good-faith effort to meet the schedule for completion, if the Agency denies or revokes any required permit, if conditions certified in the application change, or for any violation of this rule.

(h) Whenever the Administrator establishes an extension to an effective date under this section,

during the period for which such extension is in effect:

- (1) The storage restrictions under § 268.50(a) do not apply; and
- (2) Such hazardous waste may be disposed in a landfill or surface impoundment only if such unit is in compliance with the technical requirements of the following provisions regardless of whether such unit is existing, new, or a replacement or lateral expansion.
 - (i) The landfill, if in interim status, is in compliance with the requirements of Subsection F of section 265 and § 265.301 (a), (c), and (d) of this rule; or,
 - (ii) The landfill, if permitted, is in compliance with the requirements of Subsection F of section 264 and § 264.301 (c), (d) and (e) of this rule; or
 - (iii) The surface impoundment, if in interim status, is in compliance with the requirements of Subsection F of section 265, § 265.221 (a), (c), and (d) of this rule, and RCRA section 3005(j)(1); or
 - (iv) The surface impoundment, if permitted, is in compliance with the requirements of Subsection F of section 264 and § 264.221 (c), (d) and (e) of this rule; or
 - (v) The surface impoundment, if newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste, is in compliance with the requirements of Subsection F of section 265 of this rule within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of § 265.221 (a), (c) and (d) of this rule within 48 months after the promulgation of additional listings or characteristics of hazardous waste. If a national capacity variance is granted, during the period the variance is in effect, the surface impoundment, if newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics of hazardous waste, is in compliance with the requirements of Subsection F of section 265 of this rule within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of § 265.221 (a), (c) and (d) of this rule within 48 months after the promulgation of additional listings or characteristics of hazardous waste; or
 - (vi) The landfill, if disposing of containerized liquid hazardous wastes containing PCBs at concentrations greater than or equal to 50 ppm but less than 500 ppm, is also in compliance with the requirements of 40 CFR 761.75 and sections 264 and 265 of this rule.
- (i) Pending a decision on the application the applicant is required to comply with all restrictions on land disposal under this section once the effective date for the waste has been reached.

§ 268.6 Petitions to allow land disposal of a waste prohibited under Subsection C of Section 268.

(a) Any person seeking an exemption from a prohibition under Subsection C of this section for the disposal of a restricted hazardous waste in a particular unit or units must submit a petition to the EPA Administrator demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration must include the following components:

- (1) An identification of the specific waste and the specific unit for which the demonstration will be made;
- (2) A waste analysis to describe fully the chemical and physical characteristics of the

subject waste;

(3) A comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality;

(4) A monitoring plan that detects migration at the earliest practicable time;

(5) Sufficient information to assure the Administrator that the owner or operator of a land disposal unit receiving restricted waste(s) will comply with other applicable Federal, State, and local laws.

(b) The demonstration referred to in paragraph (a) of this section must meet the following criteria:

(1) All waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state-of-the-art techniques allow;

(2) All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters must have been approved by the Administrator;

(3) Simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;

(4) A quality assurance and quality control plan that addresses all aspects of the demonstration must be approved by the Administrator; and,

(5) An analysis must be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis must include an evaluation of the consequences of predictable future events, including, but not limited to, earthquakes, floods, severe storm events, droughts, or other natural phenomena.

(c) Each petition referred to in paragraph (a) of this section must include the following:

(1) A monitoring plan that describes the monitoring program installed at and/or around the unit to verify continued compliance with the conditions of the variance. This monitoring plan must provide information on the monitoring of the unit and/or the environment around the unit. The following specific information must be included in the plan:

(i) The media monitored in the cases where monitoring of the environment around the unit is required;

(ii) The type of monitoring conducted at the unit, in the cases where monitoring of the unit is required;

(iii) The location of the monitoring stations;

(iv) The monitoring interval (frequency of monitoring at each station);

(v) The specific hazardous constituents to be monitored;

(vi) The implementation schedule for the monitoring program;

(vii) The equipment used at the monitoring stations;

(viii) The sampling and analytical techniques employed; and

(ix) The data recording/reporting procedures.

(2) Where applicable, the monitoring program described in paragraph (c)(1) of this section must be in place for a period of time specified by the Administrator, as part of his approval of the petition, prior to receipt of prohibited waste at the unit.

(3) The monitoring data collected according to the monitoring plan specified under paragraph (c)(1) of this section must be sent to the Administrator according to a format and schedule specified and approved in the monitoring plan, and

(4) A copy of the monitoring data collected under the monitoring plan specified under paragraph (c)(1) of this section must be kept on-site at the facility in the operating record.

(5) The monitoring program specified under paragraph (c)(1) of this section meets the following criteria:

(i) All sampling, testing, and analytical data must be approved by the Administrator and must provide data that is accurate and reproducible.

(ii) All estimation and monitoring techniques must be approved by the Administrator.

(iii) A quality assurance and quality control plan addressing all aspects of the monitoring program must be provided to and approved by the Administrator.

(d) Each petition must be submitted to the Administrator.

(e) After a petition has been approved, the owner or operator must report any changes in conditions at the unit and/or the environment around the unit that significantly depart from the conditions described in the variance and affect the potential for migration of hazardous constituents from the units as follows:

(1) If the owner or operator plans to make changes to the unit design, construction, or operation, such a change must be proposed, in writing, and the owner or operator must submit a demonstration to the Administrator at least 30 days prior to making the change. The Administrator will determine whether the proposed change invalidates the terms of the petition and will determine the appropriate response. Any change must be approved by the Administrator prior to being made.

(2) If the owner or operator discovers that a condition at the site which was modeled or predicted in the petition does not occur as predicted, this change must be reported, in writing, to the Administrator within 10 days of discovering the change. The Administrator will determine whether the reported change from the terms of the petition requires further action, which may include termination of waste acceptance and revocation of the petition, petition modifications, or other responses.

(f) If the owner or operator determines that there is migration of hazardous constituent(s) from the unit, the owner or operator must:

(1) Immediately suspend receipt of prohibited waste at the unit, and

(2) Notify the Administrator, in writing, within 10 days of the determination that a release has occurred.

(3) Following receipt of the notification the Administrator will determine, within 60 days of receiving notification, whether the owner or operator can continue to receive prohibited waste in the unit and whether the variance is to be revoked. The Administrator shall also determine whether further examination of any migration is warranted under applicable provisions of section 264 or section 265.

(g) Each petition must include the following statement signed by the petitioner or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(h) After receiving a petition, the Administrator may request any additional information that reasonably may be required to evaluate the demonstration.

(i) If approved, the petition will apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and will not apply to any other restricted

waste at that disposal unit, or to that specific restricted waste at any other disposal unit.

(j) The Administrator will give public notice in the *Federal Register* of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the *Federal Register*.

(k) The term of a petition granted under this section shall be no longer than the term of the RCRA permit if the disposal unit is operating under a RCRA permit, or up to a maximum of 10 years from the date of approval provided under paragraph (g) of this section if the unit is operating under interim status. In either case, the term of the granted petition shall expire upon the termination or denial of a RCRA permit, or upon the termination of interim status or when the volume limit of waste to be land disposed during the term of petition is reached.

(l) Prior to the Administrator's decision, the applicant is required to comply with all restrictions on land disposal under this section once the effective date for the waste has been reached.

(m) The petition granted by the Administrator does not relieve the petitioner of his responsibilities in the management of hazardous waste under this Rule and 40 CFR parts 260 through part 271.

(n) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm are not eligible for an exemption under this section.

§ 268.7 Testing, tracking, and recordkeeping requirements for generators, treaters, and disposal facilities.

(a) Requirements for generators:

(1) A generator of hazardous waste must determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards in §268.40, §268.45, or §268.49. This determination can be made concurrently with the hazardous waste determination required in § 262.11 of this rule, in either of two ways: testing the waste or using knowledge of the waste. If the generator tests the waste, testing would normally determine the total concentration of hazardous constituents, or the concentration of hazardous constituents in an extract of the waste obtained using test method 1311 in "Test Methods of Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference, see § 260.11 of this rule), depending on whether the treatment standard for the waste is expressed as a total concentration or concentration of hazardous constituent in the waste's extract. (Alternatively, the generator must send the waste to a RCRA-permitted hazardous waste treatment facility, where the waste treatment facility must comply with the requirements of § 264.13 of this rule and paragraph (b) of this section.) In addition, some hazardous wastes must be treated by particular treatment methods before they can be land disposed and some soils are contaminated by such hazardous wastes. These treatment standards are also found in §268.40, and are described in detail in §268.42, Table 1. These wastes, and soils contaminated with such wastes, do not need to be tested (however, if they are in a waste mixture, other wastes with concentration level treatment standards would have to be tested). If a generator determines they are managing a waste or soil contaminated with a waste, that displays a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity, they must comply with the special requirements of §268.9 of this section in addition to any applicable requirements in this section.

(2) If the waste or contaminated soil does not meet the treatment standards or if the generator chooses not to make the determination of whether his waste must be treated, with the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The notice must include the information in column “268.7(a)(2)” of the Generator Paperwork Requirements Table in § 268.7(a)(4) of this section. (Alternatively, if the generator chooses not to make the determination of whether the waste must be treated, the notification must include the EPA Hazardous Waste Numbers and Manifest Number of the first shipment and must state “This hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination.”). No further notification is necessary until such time that the waste or facility changes, in which case a new notification must be sent and a copy placed in the generator’s file.

(i) For contaminated soil, the following certification statement should be included, signed by an authorized representative:

“I certify under penalty of law that I personally have examined this contaminated soil and it [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and requires treatment to meet the soil treatment standards as provided by § 268.49(c).”

(ii) [Reserved]

(3) If the waste or contaminated soil meets the treatment standard at the original point of generation:

(i) With the initial shipment of waste to each treatment, storage, or disposal facility, the generator must send a one-time written notice to each treatment, storage, or disposal facility receiving the waste, and place a copy in the file. The notice must include the information indicated in column “268.7(a)(3)” of the Generator Paperwork Requirements Table in § 268.7(a)(4) and the following certification statement, signed by an authorized representative:

“I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.”

(ii) For contaminated soil, with the initial shipment of wastes to each treatment, storage, or disposal facility, the generator must send a one-time written notice to each facility receiving the waste and place a copy in the file. The notice must include the information in column “268.7(a)(3)” of the Generator Paperwork Requirements Table in § 268.7(a)(4).

(iii) If the waste changes, the generator must send a new notice and certification to the receiving facility, and place a copy in their files. Generators of hazardous debris excluded from the definition of hazardous waste under § 261.3(f) of this rule are not subject to these requirements.

(4) For reporting, tracking, and recordkeeping when exceptions allow certain wastes or contaminated soil that do not meet the treatment standards to be land disposed: There are certain exemptions from the requirement that hazardous wastes or contaminated soil meet treatment standards before they can be land disposed. These include, but are not limited to

case-by-case extensions under § 268.5, disposal in a no-migration unit under § 268.6, or a national capacity variance or case-by-case capacity variance under subpart C of this part. If a generator's waste is so exempt, then with the initial shipment of waste, the generator must send a one-time written notice to each land disposal facility receiving the waste. The notice must include the information indicated in column "268.7(a)(4)" of the Generator Paperwork Requirements Table in this section. If the waste changes, the generator must send a new notice to the receiving facility, and place a copy in their files.

Generator Paperwork Requirements Table

| | § 268.7 (a)(2) | § 268.7 (a)(3) | § 268.7 (a)(4) | § 268.7 (a)(9) |
|--|----------------------|----------------------|----------------------|----------------------|
| 1. EPA Hazardous Waste Numbers and Manifest Number of first shipment | X | X | X | X |
| 2. Statement: this waste is not prohibited from land disposal | | | X | |
| 3. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice | X | X | | |
| 4. The notice must include the applicable wastewater/nonwastewater category (see Sec. Sec. 268.2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide) | X | X | | |
| 5. Waste analysis data (when available) | X | X | X | |
| 6. Date the waste is subject to the prohibition | | | X | |
| 7. For hazardous debris, when treating with the alternative treatment technologies provided by § 268.45: the contaminants subject to treatment, as described in § 268.45(b); and an indication that these contaminants are being treated to comply with §268.45 | X | | X | |
| 8. For contaminated soil subject to LDRs as provided in § 268.49(a), the constituents subject to treatment as described in § 268.49(d), and the following statement: This contaminated soil [does/does not] contain listed hazardous | X | X | | |

| | | | | |
|---|--|--|--|--|
| waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by § 268.49(c) or the universal treatment standards. | | | | |
| 9. A certification is needed (see applicable section for exact wording). | | | | |

(5) If a generator is managing and treating prohibited waste or contaminated soil in tanks, containers, or containment buildings regulated under §§ 262.15, 262.16, and 262.17 to meet applicable LDR treatment standards found at § 268.40, the generator must develop and follow a written waste analysis plan which describes the procedures they will carry out to comply with the treatment standards. (Generators treating hazardous debris under the alternative treatment standards of Table 1, § 268.45, however, are not subject to these waste analysis requirements.) The plan must be kept on site in the generator's records, and the following requirements must be met:

(i) The waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste(s) being treated, and contain all information necessary to treat the waste(s) in accordance with the requirements of this section, including the selected testing frequency.

(ii) Such plan must be kept in the facility's on-site files and made available to inspectors.

(iii) Wastes shipped off-site pursuant to this paragraph must comply with the notification requirements of § 268.7(a)(3).

(6) If a generator determines that the waste is restricted based solely on his knowledge of the waste, all supporting data used to make this determination must be retained on-site in the generator's files. If a generator determines that the waste is restricted based on testing this waste or an extract developed using the test method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as referenced in § 260.11 of this rule, all waste analysis data must be retained on-site in the generator's files.

(7) If a generator determines that he is managing a restricted waste that is excluded from the definition of hazardous or solid waste or exempt from Subtitle C rule, under §§ 261.2 through 261.6 subsequent to the point of generation (including deactivated characteristic hazardous wastes managed in wastewater treatment systems subject to the Clean Water Act (CWA) as specified at § 261.4(a)(2), or are CWA-equivalent), he must place a one-time notice stating such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from RCRA Subtitle C rule, and the disposition of the waste, in the facility's file.

(8) Generators must retain on-site a copy of all notices, certifications, waste analysis data, and other documentation produced pursuant to this section for at least three (3) years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal. The three year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated

activity or as requested by the Director. The requirements of this paragraph apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under §§ 261.2 through 261.6, or exempted from Subtitle C rule, subsequent to the point of generation.

(9) If a generator is managing a lab pack containing hazardous wastes and wishes to use the alternative treatment standard for lab packs found at § 268.42(c):

(i) With the initial shipment of waste to a treatment facility, the generator must submit a notice that provides the information in column “§ 268.7(a)(9)” in the Generator Paperwork Requirements Table of paragraph (a)(4) of this section, and the following certification. The certification, which must be signed by an authorized representative and must be placed in the generator’s files, must say the following:

“I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under Appendix IV to 40 CFR section 268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR 268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.”

(ii) No further notification is necessary until such time that the wastes in the lab pack change, or the receiving facility changes, in which case a new notice and certification must be sent and a copy placed in the generator’s file.

(iii) If the lab pack contains characteristic hazardous wastes (D001-D043), underlying hazardous constituents (as defined in § 268.2(i)) need not be determined.

(iv) The generator must also comply with the requirements in paragraphs (a)(6) and (a)(7) of this section.

(10) [Reserved]

(b) Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by § 264.13 (for permitted TSDs) or § 265.13 (for interim status facilities). Such testing must be performed as provided in paragraphs (b)(1), (b)(2) and (b)(3) of this section.

(1) For wastes with treatment standards expressed as concentrations in the waste extract (TCLP), the owner or operator of the treatment facility must test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846 as incorporated by reference in § 260.11 of this rule), to assure that the treatment residues extract meet the applicable treatment standards.

(2) For wastes with treatment standards expressed as concentrations in the waste, the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that they meet the applicable treatment standards.

(3) A one-time notice must be sent with the initial shipment of waste to the land disposal facility. A copy of the notice must be placed in the treatment facility’s file.

(i) No further notification is necessary until such time that the waste or receiving facility change, in which case a new notice must be sent and a copy placed in the treatment facility’s file.

(ii) The one-time notice must include these requirements:

TSDF Paperwork Requirements Table

| Required Information | § 268.7(b) |
|--|------------|
| 1. EPA Hazardous Waste & Manifest number of first shipment. | X |
| 2. The waste is subject to the LDRs. The constituents of concern for F001-F002, and F039, and underlying hazardous constituents (for wastes that are not managed in a Clean Water Act (CWA) or CWA-equivalent facility), unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice. | X |
| 3. The notice must include the applicable wastewater/ non-wastewater category (see § 268.2(d) and (f)) and subdivisions made within a waste codebased on waste-specific criteria (such as D003 reactive cyanide) | X |
| 4. Waste analysis data (when available) | X |
| 5. A certification statement is needed (see applicable section for exact wording) | X |

(4) The treatment facility must submit a one-time certification signed by an authorized representative with the initial shipment of waste or treatment residue of a restricted waste to the land disposal facility. The certification must state:

“I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.”

A certification is also necessary for contaminated soil and it must state:

“I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268.49 without impermissible dilution of the prohibited wastes. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.”

(i) A copy of the certification must be placed in the treatment facility’s on-site files. If the waste or treatment residue changes, or the receiving facility changes, a new certification must be sent to the receiving facility, and a copy placed in the file.

(ii) Debris excluded from the definition of hazardous waste under § 261.3(f) of this rule (i.e., debris treated by an extraction or destruction technology provided by Table 1, § 268.45, and debris that the Director has determined does not contain hazardous waste), however, is subject to the notification and certification requirements of paragraph (d) of

this section rather than the certification requirements of this paragraph.

(iii) For wastes with organic constituents having treatment standards expressed as concentration levels, if compliance with the treatment standards is based in whole or in part on the analytical detection limit alternative specified in § 268.40(d), the certification, signed by an authorized representative, must state the following:

“I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in § 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good-faith efforts to analyze for such constituents. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.”

(iv) For characteristic wastes that are subject to the treatment standards in § 268.40 (other than those expressed as a method of treatment), or § 268.49, and that contain underlying hazardous constituents as defined in § 268.2(i); if these wastes are treated on-site to remove the hazardous characteristic; and are then sent off-site for treatment of underlying hazardous constituents, the certification must state the following:

“I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.”

(v) For characteristic wastes that contain underlying hazardous constituents as defined at § 268.2(i) that are treated on-site to remove the hazardous characteristic to treat underlying hazardous constituents to levels in § 268.48 Universal Treatment Standards, the certification must state the following:

“I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268.2(i) have been treated on-site to meet the § 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.”

(5) If the waste or treatment residue will be further managed at a different treatment, storage, or disposal facility, the treatment, storage, or disposal facility sending the waste or treatment residue off-site must comply with the notice and certification requirements applicable to generators under this section.

(6) Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of § 266.20(b) of this rule regarding treatment standards and prohibition levels, the owner or operator of a treatment facility (i.e., the recycler) must, for the initial shipment of waste, prepare a one-time certification described in paragraph (b)(4) of this section, and a one-time notice which includes the information in paragraph (b)(3) of this section (except the manifest number). The certification and notification must be placed in the facility's on-site files. If the waste or the receiving facility changes, a new certification and notification must be prepared and placed in the on site files. In addition, the recycling facility must also keep records of the name and location of each entity receiving the hazardous waste-derived product.

(c) Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal pursuant to § 266.20(b), the owner or operator of any land disposal facility disposing of any waste subject to restrictions under this part must:

(1) Have copies of the notice and certifications specified in paragraph (a) or (b) of this section.

(2) Test the waste, or an extract of the waste or treatment residue developed using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846 as incorporated by reference in § 260.11 of this chapter), to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in subsection D of this Section. Such testing must be performed according to the frequency specified in the facility’s waste analysis plan as required by § 264.13 or § 265.13 of this rule.

(d) Generators or treaters who first claim that hazardous debris is excluded from the definition of hazardous waste under § 261.3(f) of this rule (i.e., debris treated by an extraction or destruction technology provided by Table 1, § 268.45, and debris that the EPA Regional Administrator (or his designated representative) or State authorized to implement 40 CFR Part 268 requirements has determined does not contain hazardous waste) are subject to the following notification and certification requirements:

(1) A one-time notification, including the following information, must be submitted to the DEQ.

- (i) The name and address of the RCRA Subtitle D facility receiving the treated debris;
- (ii) A description of the hazardous debris as initially generated, including the applicable EPA Hazardous Waste Number(s); and
- (iii) For debris excluded under § 261.3(f)(1) of this rule, the technology from Table 1, § 268.45, used to treat the debris.

(2) The notification must be updated if the debris is shipped to a different facility, and, for debris excluded under § 261.3(f)(1) of this chapter, if a different type of debris is treated or if a different technology is used to treat the debris.

(3) For debris excluded under § 261.3(f)(1) of this chapter, the owner or operator of the treatment facility must document and certify compliance with the treatment standards of Table 1, § 268.45, as follows:

- (i) Records must be kept of all inspections, evaluations, and analyses of treated debris that are made to determine compliance with the treatment standards;
- (ii) Records must be kept of any data or information the treater obtains during treatment of the debris that identifies key operating parameters of the treatment unit; and
- (iii) For each shipment of treated debris, a certification of compliance with the treatment standards must be signed by an authorized representative and placed in the facility’s files. The certification must state the following: “I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment.”

(e) Generators and treaters who first receive from EPA or DEQ a determination that a given contaminated soil subject to LDRs as provided in § 268.49(a) no longer contains a listed hazardous waste and generators and treaters who first determine that a contaminated soil subject to LDRs as provided in § 268.49(a) no longer exhibits a characteristic of hazardous waste must:

- (1) Prepare a one-time only documentation of these determinations including all supporting information; and,
- (2) Maintain that information in the facility files and other records for a minimum of three years.

§ 268.8 [Reserved]

§ 268.9 Special rules regarding wastes that exhibit a characteristic.

(a) The initial generator of a solid waste must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under subsection D of this section. This determination may be made concurrently with the hazardous waste determination required in § 262.11 of this rule. For the purposes of Section 268, the waste will carry the waste code for any applicable listed waste (Section 261, Subsection D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (Section 261, Subsection C), except when the treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste, as specified in paragraph (b) of this section. If the generator determines that their waste displays a hazardous characteristic (and is not D001 nonwastewaters treated by CMBST, RORGS, or POLYM of § 268.42, Table 1), the generator must determine the underlying hazardous constituents (as defined at § 268.2(i)) in the characteristic waste.

(b) Where a prohibited waste is both listed under section 261, Subsection D and exhibits a characteristic under section 261, Subsection C, the treatment standard for the waste code listed in section 261, Subsection D will operate in lieu of the standard for the waste code under section 261, Subsection C, provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

(c) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under section 261, Subsection C may be land disposed unless the waste complies with the treatment standards under Subsection D of this section.

(d) Wastes that exhibit a characteristic are also subject to § 268.7 requirements, except that once the waste is no longer hazardous, a one-time notification and certification must be placed in the generator's or treater's on-site files. The notification and certification must be updated if the process or operation generating the waste changes and/or if the subtitle D facility receiving the waste changes.

(1) The notification must include the following information:

(i) Name and address of the RCRA Subtitle D facility receiving the waste shipment; and

(ii) A description of the waste as initially generated, including the applicable EPA hazardous waste code(s), treatability group(s), and underlying hazardous constituents (as defined in § 268.2(i)), unless the waste will be treated and monitored for all underlying hazardous constituents. If all underlying hazardous constituents will be treated and monitored, there is no requirement to list any of the underlying hazardous constituents on the notice.

(2) The certification must be signed by an authorized representative and must state the language found in § 268.7(b)(4).

(i) If treatment removes the characteristic but does not meet standards applicable to underlying hazardous constituents, then the certification found in § 268.7(b)(4)(iv) applies.

(ii) [Reserved]

Subsection B -- Schedule for Land Disposal Prohibition and Establishment of Treatment Standards

§ 268.10 [Reserved]

§ 268.11 [Reserved]

§ 268.12 [Reserved]

§ 268.13 Schedule for wastes identified or listed after November 8, 1984

In the case of any hazardous waste identified or listed under RCRA Section 3001 after November 8, 1984, the Administrator shall make a land disposal prohibition determination within 6 months after the date of identification or listing.

§ 268.14 Surface impoundment exemptions

(a) This section defines additional circumstances under which an otherwise prohibited waste may continue to be placed in a surface impoundment.

(b) Wastes which are newly identified or listed under section 3001 after November 8, 1984, and stored in a surface impoundment that is newly subject to Subtitle C of RCRA as a result of the additional identification or listing, may continue to be stored in the surface impoundment for 48 months after the promulgation of the additional listing or characteristic, notwithstanding that the waste is otherwise prohibited from land disposal, provided that the surface impoundment is in compliance with the requirements of Subsection F of Section 265 of this rule within 12 months after promulgation of the new listing or characteristic.

(c) Wastes which are newly identified or listed under section 3001 after November 8, 1984, and treated in a surface impoundment that is newly subject to subtitle C of RCRA as a result of the additional identification or listing, may continue to be treated in that surface impoundment, notwithstanding that the waste is otherwise prohibited from land disposal, provided that surface impoundment is in compliance with the requirements of Subsection F of section 265 of this rule within 12 months after the promulgation of the new listing or characteristic. In addition, if the surface impoundment continues to treat hazardous waste after 48 months from promulgation of the additional listing or characteristic, it must then be in compliance with § 268.4.

Subsection C -- Prohibitions on Land Disposal

§ 268.20 Waste specific prohibitions—Dyes and/or pigments production wastes

(a) Effective August 23, 2005, the waste specified in Section 261 of this Rule as EPA Hazardous Waste Number K181, and soil and debris contaminated with this waste, radioactive wastes mixed with this waste, and soil and debris contaminated with radioactive wastes mixed with this waste are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in subsection D of this Section;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;

(4) Hazardous debris has met the treatment standards in § 268.40 or the alternative treatment standards in § 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract of the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable subsection D levels, the waste is prohibited from land disposal, and all requirements of Section 268 are applicable, except as otherwise specified.

§ 268.30 Waste specific prohibitions — wood preserving wastes

(a) Effective August 11, 1997, the following wastes are prohibited from land disposal: the wastes specified in Section 261 as EPA Hazardous Waste numbers F032, F034, and F035.

(b) Effective May 12, 1999, the following wastes are prohibited from land disposal: soil and debris contaminated with F032, F034, F035; and radioactive wastes mixed with EPA Hazardous waste numbers F032, F034, and F035.

(c) Between May 12, 1997 and May 12, 1999, soil and debris contaminated with F032, F034, F035; and radioactive waste mixed with F032, F034, and F035 may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2) of this section.

(d) The requirements of paragraphs (a) and (b) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Subsection D of this section;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under § 268.44; or

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to those wastes covered by the extension.

(e) To determine whether a hazardous waste identified in this section exceeds the applicable

treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Universal Treatment Standard levels of § 268.48 of this section, the waste is prohibited from land disposal, and all requirements of Section 268 are applicable, except as otherwise specified.

§ 268.31 Waste specific prohibitions -- Dioxin-containing wastes

(a) Effective November 8, 1988, the dioxin-containing wastes specified in 261.31 as EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028, are prohibited from land disposal unless the following condition applies:

(1) The F020-F023 and F026-F028 dioxin-containing waste is contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or a corrective action taken under subtitle C of the Resource Conservation and Recovery Act (RCRA).

(b) Effective November 8, 1990, the F020-F023 and F026-F028 dioxin-containing wastes listed in paragraph (a)(1) of this section are prohibited from land disposal.

(c) Between November 8, 1988, and November 8, 1990, wastes included in paragraph (a)(1) of this section may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2) and all other applicable requirements of sections 264 and 265 of this rule.

(d) The requirements of paragraphs (a) and (b) of this section do not apply if:

- (1) The wastes meet the standards of Subsection D of this section; or
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition; or
- (3) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to those wastes covered by the extension.

§ 268.32 Waste specific prohibitions—Soils exhibiting the toxicity characteristic for metals and containing PCBs

(a) Effective December 26, 2000, the following wastes are prohibited from land disposal: any volumes of soil exhibiting the toxicity characteristic solely because of the presence of metals (D004—D011) and containing PCBs.

(b) The requirements of paragraph (a) of this section do not apply if:

- (1)(i) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg; and
- (ii) The wastes meet the treatment standards specified in Subsection D of this Section for EPA hazardous waste numbers D004—D011, as applicable; or
- (2)(i) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg; and
- (ii) The wastes meet the alternative treatment standards specified in § 268.49 for contaminated soil; or
- (3) Persons have been granted an exemption from a prohibition pursuant to a petition under

§ 268.6, with respect to those wastes and units covered by the petition; or

(4) The wastes meet applicable alternative treatment standards established pursuant to a petition granted under § 268.44.

§ 268.33 Waste specific prohibitions-chlorinated aliphatic wastes

(a) Effective May 8, 2001, the wastes specified in Section 261 of this Rule as EPA Hazardous Wastes Numbers K174, and K175, soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in subsection D of this section;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;

(4) Hazardous debris has met the treatment standards in § 268.40 or the alternative treatment standards in § 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable levels of subsection D of this section, the waste is prohibited from land disposal, and all requirements of Section 268 are applicable, except as otherwise specified.

(d) Disposal of K175 wastes that have complied with all applicable § 268.40 treatment standards must also be macroencapsulated in accordance with § 268.45 Table 1 unless the waste is placed in:

(1) A Subtitle C monofill containing only K175 wastes that meet all applicable § 268.40 treatment standards; or

(2) A dedicated Subtitle C landfill cell in which all other wastes being co-disposed are at pH < 6.0.

§ 268.34 Waste specific prohibitions — toxicity characteristic metal wastes

(a) Effective August 24, 1998, the following wastes are prohibited from land disposal: the wastes specified in Section 261 as EPA Hazardous Waste numbers D004-D011 that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure), and waste, soil, or debris from mineral processing operations that is identified as hazardous by the specifications at Section 261.

(b) Effective November 26, 1998, the following waste is prohibited from land disposal: Slag from secondary lead smelting which exhibits the toxicity characteristic due to the presence of one or more metals.

(c) Effective May 26, 2000, the following wastes are prohibited from land disposal: newly

identified characteristic wastes from elemental phosphorus processing; radioactive wastes mixed with EPA Hazardous wastes D004-D011 that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure); or mixed with newly identified characteristic mineral processing wastes, soil, or debris.

(d) Between May 26, 1998 and May 26, 2000, newly identified characteristic wastes from elemental phosphorus processing, radioactive waste mixed with D004-D011 wastes that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure), or mixed with newly identified characteristic mineral processing wastes, soil, or debris may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2) of this section.

(e) The requirements of paragraphs (a) and (b) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in subsection D of this section;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under §268.44; or

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to §268.5, with respect to these wastes covered by the extension.

(f) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents (including underlying hazardous constituents in characteristic wastes) in excess of the applicable Universal Treatment Standard levels of § 268.48 of this section, the waste is prohibited from land disposal, and all requirements of section 268 are applicable, except as otherwise specified.

§ 268.35 Waste specific prohibitions — petroleum refining wastes

(a) Effective February 8, 1999, the wastes specified in § 261 as EPA Hazardous Wastes Numbers K169, K170, K171, and K172, soils and debris contaminated with these wastes, radioactive wastes mixed with these hazardous wastes, and soils and debris contaminated with these radioactive mixed wastes, are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Subsection D of this section;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;

(4) Hazardous debris that have met treatment standards in § 268.40 or in the alternative treatment standards in § 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to

§ 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Universal Treatment Standard levels of § 268.48, the waste is prohibited from land disposal, and all requirements of this part are applicable, except as otherwise specified.

§ 268.36 Waste specific prohibitions— inorganic chemical wastes

(a) Effective May 20, 2002, the wastes specified in 40 CFR part 261 as EPA Hazardous Wastes Numbers K176, K177, and K178, and soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in subsection D of this section;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;

(4) Hazardous debris has met the treatment standards in § 268.40 or the alternative treatment standards in § 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable subsection D levels, the waste is prohibited from land disposal, and all requirements of this part are applicable, except as otherwise specified.

§ 268.37 Waste specific prohibitions-ignitable and corrosive characteristic wastes whose treatment standards were vacated

(a) Effective August 9, 1993, the wastes specified in § 261.21 as D001 (and is not in the High TOC Ignitable Liquids Subcategory), and specified in § 261.22 as D002, that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

(b) Effective February 10, 1994, the wastes specified in 261.21 as D001 (and is not in the High TOC Ignitable Liquids Subcategory), and specified in § 261.22 as D002, that are managed in systems defined in 40 CFR 144.6(e) and 146.6(e) as Class V injection wells, that do not engage in CWA-equivalent treatment before injection, are prohibited from land disposal.

§ 268.38 Waste specific prohibitions-newly identified organic toxicity characteristic wastes and newly listed coke by-product and chlorotoluene production wastes

(a) Effective December 19, 1994, the wastes specified in 261.32 as EPA Hazardous Waste numbers K141, K142, K143, K144, K145, K147, K148, K149, K150, and K151 are prohibited from land disposal. In addition, debris contaminated with EPA Hazardous Waste numbers F037, F038, K107-K112, K117, K118, K123-K126, K131, K132, K136, U328, U353, U359, and soil and debris contaminated with D012-D043, K141-K145, and K147-K151 are prohibited from land disposal. The following wastes that are specified in 261.24, Table 1 as EPA Hazardous Waste numbers: D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043 that are not radioactive, or that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that are zero dischargers that do not engage in CWA-equivalent treatment before ultimate land disposal, or that are injected in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or better than these technologies.

(b) On September 19, 1996, radioactive wastes that are mixed with D018-D043 that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies. Radioactive wastes mixed with K141-K145, and K147-K151 are also prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(c) Between December 19, 1994 and September 19, 1996, the wastes included in paragraphs (b) of this section may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in § 268.5(h)(2) of this section.

(d) The requirements of paragraphs (a), (b), and (c) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Subsection D of this section;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under § 268.44;

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to

§ 268.5, with respect to these wastes covered by the extension.

(e) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subsection D levels, the waste is prohibited from land disposal, and all requirements of section 268 are applicable, except as otherwise specified.

§ 268.39 Waste specific prohibitions -- spent aluminum potliners; reactive; and carbamate wastes

(a) On July 8, 1996, the wastes specified in § 261.32 as EPA Hazardous Waste numbers K156-K159, and K161; and in § 261.33 as EPA Hazardous Waste numbers P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U278-U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409-U411 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal.

(b) On July 8, 1996, the wastes identified in § 261.23 as D003 that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. This prohibition does not apply to unexploded ordnance and other explosive devices which have been the subject of an emergency response. (Such D003 wastes are prohibited unless they meet the treatment standard of DEACT before land disposal (see § 268.40)).

(c) On September 21, 1998, the wastes specified in § 261.32 as EPA Hazardous Waste number K088 are prohibited from land disposal. In addition, soil and debris contaminated with this waste are prohibited from land disposal.

(d) On April 8, 1998, radioactive wastes mixed with K088, K156-K159, K161, P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U278-U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409-U411 are prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(e) Between July 8, 1996, and April 8, 1998, the wastes included in paragraphs (a), (c), and (d) of this section may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(f) The requirements of paragraphs (a), (b), (c), and (d) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Section 268, Subsection D of this rule;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under § 268.44;

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to these wastes covered by the extension.

(g) To determine whether a hazardous waste identified in this section exceeds the applicable

treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subsection D levels, the waste is prohibited from land disposal, and all requirements of this Section 268 are applicable, except as otherwise specified.

Subsection D -- Treatment Standards

§ 268.40 Applicability of Treatment Standards

(a) A prohibited waste identified in the table “Treatment Standards for Hazardous Wastes” may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one of three types of treatment standard requirements:

(1) All hazardous constituents in the waste or in the treatment residue must be at or below the values found in the table for that waste (“total waste standards”); or

(2) The hazardous constituents in the extract of the waste or in the extract of the treatment residue must be at or below the values found in the table (“waste extract standards”); or

(3) The waste must be treated using the technology specified in the table (“technology standard”), which are described in detail in § 268.42, Table 1-Technology Codes and Description of Technology-Based Standards.

(b) For wastewaters, compliance with concentration level standards is based on maximums for any one day, except for D004 through D011 wastes for which the previously promulgated treatment standards based on grab samples remain in effect. For all nonwastewaters, compliance with concentration level standards is based on grab sampling. For wastes covered by the waste extract standards, the test Method 1311, the Toxicity Characteristic Leaching Procedure found in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA Publication SW-846, as incorporated by reference in § 260.11, must be used to measure compliance. An exception is made for D004 and D008, for which either of two test methods may be used: Method 1311, or Method 1310B, the Extraction Procedure Toxicity Test. For wastes covered by a technology standard, the wastes may be land disposed after being treated using that specified technology or an equivalent treatment technology approved by the Administrator under the procedures set forth in § 268.42(b).

(c) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

(d) Notwithstanding the prohibitions specified in paragraph (a) of this section, treatment and disposal facilities may demonstrate (and certify pursuant to 268.7(b)(5)) compliance with the treatment standards for organic constituents specified by a footnote in the table “Treatment Standards for Hazardous Wastes” in this section, provided the following conditions are satisfied:

(1) The treatment standards for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of Section 264, Subsection O, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

(2) The treatment or disposal facility has used the methods referenced in paragraph (d)(1) of this section to treat the organic constituents; and

(3) The treatment or disposal facility may demonstrate compliance with organic constituents if good-faith analytical efforts achieve detection limits for the regulated organic constituents that do not exceed the treatment standards specified in this section by an order of magnitude.

(e) For characteristic wastes (D001-D043) that are subject to treatment standards in the following table “Treatment Standards for Hazardous Wastes,” and are not managed in a wastewater treatment system that is regulated under the Clean Water Act (CWA), that is CWA-equivalent, or that is injected into a Class I nonhazardous deep injection well, all underlying hazardous constituents (as defined in § 268.2(i)) must meet Universal Treatment Standards, found in § 268.48, Table Universal Treatment Standards, prior to land disposal as defined in § 268.2(c) of this rule.

(1) When these wastes are managed in wastewater treatment systems regulated by the Clean Water Act (CWA), compliance with the treatment standards must be achieved no later than “end-of-pipe” as defined in § 268.2(k); or

(2) When these wastes are managed in CWA-equivalent treatment systems and tank-based systems that discharge onto the land, compliance with the treatment standards must be achieved no later than the point the wastewater is released to the land (e.g., spray irrigation, discharge to dry river beds, placed into evaporation ponds); or

(3) When these wastes are managed in Class I nonhazardous injection wells, compliance with the treatment standards must be achieved no later than the well head; or

(4) For all other, compliance with the treatment standard must be met prior to land disposal as defined in § 268.2(c).

(f) The treatment standards for F001-F005 nonwastewater constituents carbon disulfide, cyclohexanone, and/or methanol apply to wastes which contain only one, two, or three of these constituents. Compliance is measured for these constituents in the waste extract from test Method 1311, the Toxicity Characteristic Leaching Procedure found in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA Publication SW-846, as incorporated by reference in § 260.11. If the waste contains any of these three constituents along with any of the other 25 constituents found in F001-F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol are not required.

(g) Between August 26, 1996 and March 4, 1999 the treatment standards for the wastes specified in § 261.32 as EPA Hazardous Waste numbers K156-K161; and in § 261.33 as EPA Hazardous Waste numbers P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U277-U280, U364-U367, U372, U373, U375-U379, U381-U387, U389-U396, U400-U404, U407, and U409-U411; and soil contaminated with these wastes; may be satisfied by either meeting the constituent concentrations presented in the table “Treatment Standards for Hazardous Wastes” in this section, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at §268.42 Table 1, for non-wastewaters; and, biodegradation as defined by the technology code BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at §268.42 Table 1, for wastewaters.

(h) Prohibited D004-D011 mixed radioactive wastes and mixed radioactive listed wastes containing metal constituents, that were previously treated by stabilization to the treatment

standards in effect at that time and then put into storage, do not have to be re-treated to meet treatment standards in this section prior to land disposal.

(i) Zinc-containing fertilizers that are produced for the general public's use and that are produced from or contain recycled characteristic hazardous wastes (D004-D011) are subject to the applicable treatment standards in § 268.41 contained in the 40 CFR, parts 260-299, edition revised as of July 1, 1990.

(j) Effective September 4, 1998, the treatment standards for the wastes specified in § 261.33 as EPA hazardous waste numbers P185, P191, P192, P197, U364, U394, and U395 may be satisfied by either meeting the constituent concentrations presented in the table "Treatment Standards for Hazardous Wastes" in this subsection, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at § 268.42 Table 1 of this Section, for nonwastewaters; and biodegradation, as defined by the technology code BIODG, carbon absorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code of CHOXD, or combustion, as defined by the technology code CMBST at § 268.42 Table 1 of this Section, for wastewaters.

Note: The treatment standards that heretofore appeared in tables in §§ 268.41, 268.42, and 268.43 of this section have been consolidated into the table "Treatment Standards for Hazardous Wastes" in this section.

| §268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES | | | | | |
|---|---|--|-------------------------------|--|---|
| <i>NOTE: NA means not applicable</i> | | | | | |
| Waste Code | Waste Description & Treatment/Regulatory Subcategory¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
| | | Common Name | CAS² Number | Concentration³ in mg/L; or Technology Code⁴ | Concentration⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code⁴ |
| D001 | Ignitable Characteristic Wastes, except for the §261.21(a)(1) High TOC Subcategory. | NA | NA | DEACT and meet § 268.48 standards ⁸ ; or RORGS; or CMBST | DEACT and meet § 268.48 standards ⁸ ; or RORGS; or CMBST |
| | High TOC Ignitable Characteristic Liquids Subcategory based on § 261.21(a)(1) - Greater than or equal to 10% total organic carbon. (<i>Note: This subcategory consists</i> | NA | NA | NA | RORGS; CMBST; or POLYM |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|---|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | <i>of non-wastewaters only.)</i> | | | | |
| D002 ⁹ | Corrosive Characteristic Wastes. | NA | NA | DEACT and meet § 268.48 standards ⁸ | DEACT and meet § 268.48 standards ⁸ |
| D002, D004, D005, D006, D007, D008, D009, D010, D011 | Radioactive high level wastes generated during the reprocessing of fuel rods. (<i>Note: This subcategory consists of non-wastewaters only.</i>) | Corrosivity (pH) | NA | NA | HLVIT |
| | | Arsenic | 7440-38-2 | NA | HLVIT |
| | | Barium | 7440-39-3 | NA | HLVIT |
| | | Cadmium | 7440-43-9 | NA | HLVIT |
| | | Chromium (Total) | 7440-47-3 | NA | HLVIT |
| | | Lead | 7439-92-1 | NA | HLVIT |
| | | Mercury | 7439-97-6 | NA | HLVIT |
| | | Selenium | 7782-49-2 | NA | HLVIT |
| | | Silver | 7440-22-4 | NA | HLVIT |
| D003 ⁹ | Reactive Sulfides Subcategory based on § 261.23(a)(5). | NA | NA | DEACT | DEACT |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|--|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | Explosives Subcategory based on 261.23(a)(6), (7), and (8). | NA | NA | DEACT and meet §268.48 standards ⁸ | DEACT and meet §268.48 standards ⁸ |
| | Unexploded ordnance and other explosive devices which have been the subject of an emergency response. | NA | NA | DEACT | DEACT |
| | Other Reactives Subcategory based on § 261.23(a)(1). | NA | NA | DEACT and meet §268.48 standards ⁸ | DEACT and meet §268.48 standards ⁸ |
| | Water Reactive Subcategory based on §§ 261.23(a)(2), (3), and (4). (<i>Note: This subcategory consists of non-wastewaters only.</i>) | NA | NA | NA | DEACT and meet §268.48 standards ⁸ |
| | Reactive Cyanides Subcategory based on § 261.23(a)(5). | Cyanides (Total) ⁷ | 57-12-5 | Reserved | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| D004 ⁹ | Wastes that exhibit, or are expected to exhibit, the characteristic of | Arsenic | 7440-38-2 | 1.4 and meet §268.48 | 5.0 mg/L TCLP and meet |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | toxicity for arsenic based on the toxicity characteristic leaching procedure (TCLP) in SW846. | | | standards ⁸ | §268.48 standards ⁸ |
| D005 ⁹ | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for barium based on the toxicity characteristic leaching procedure (TCLP) in SW846. | Barium | 7440-39-3 | 1.2 and meet §268.48 standards ⁸ | 21 mg/L TCLP and meet §268.48 standards ⁸ |
| D006 ⁹ | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium based on the toxicity characteristic leaching procedure (TCLP) in SW846. | Cadmium | 7440-43-9 | 0.69 and meet §268.48 standards ⁸ | 0.11 mg/L TCLP and meet §268.48 standards ⁸ |
| | Cadmium Containing Batteries Subcategory. <i>(Note: This subcategory consists of non-wastewaters only.)</i> | Cadmium | 7440-43-9 | NA | RTHRM |
| D007 ⁹ | Wastes that exhibit, or are expected to | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | exhibit, the characteristic of toxicity for chromium based on the toxicity characteristic leaching procedure (TCLP) in SW846. | | | and meet □268.48 standards ⁸ | TCLP and meet □268.48 standards ⁸ |
| D008 ⁹ | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the toxicity characteristic leaching procedure (TCLP) in SW846. | Lead | 7439-92-1 | 0.69 and meet §268.48 standards ⁸ | 0.75 mg/L TCLP and meet §268.48 standards ⁸ |
| | Lead Acid Batteries Subcategory (Note: This standard only applies to lead acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of 40 CFR 268 or exempted under other EPA regulations (see 40 CFR 266.80). (<i>This</i> | Lead | 7439-92-1 | NA | RLEAD |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | <i>subcategory consists of non-wastewaters only.)</i> | | | | |
| | Radioactive Lead Solids Subcategory (Note: these lead solids include, but are not limited to, all forms of lead shielding and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organo-lead materials that can be incinerated and stabilized as ash. This subcategory consists of non-wastewaters only.) | Lead | 7439-92-1 | NA | MACRO |
| D009 ⁹ | Non-wastewaters that exhibit, or are | Mercury | 7439-97-6 | NA | IMERC; OR |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that also contain organics and are not incinerator residues. (High Mercury-Organic Subcategory) | | | | RMERC |
| | Non-wastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC. (High Mercury-Inorganic Subcategory) | Mercury | 7439-97-6 | NA | RMERC |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | Non-wastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are residues from RMERC only. (Low Mercury Subcategory) | Mercury | 7439-97-6 | NA | 0.20 mg/L TCLP and meet § 268.48 standards ⁸ |
| | All other non-wastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are not residues from RMERC. (Low Mercury Subcategory) | Mercury | 7439-97-6 | NA | 0.025 mg/L TCLP and meet §268.48 standards ⁸ |
| | All D009 wastewaters. | Mercury | 7439-97-6 | 0.15 and meet § | NA |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | 268.48 standards ⁸ | |
| | Elemental mercury contaminated with radioactive materials. (Note: This subcategory consists of non-wastewaters only.) | Mercury | 7439-97-6 | NA | AMLGM |
| | Hydraulic oils contaminated with Mercury Radioactive Materials subcategory (Note: This subcategory consists of non-wastewaters only) | Mercury | 7439-97-6 | NA | IMERC |
| D010 ⁹ | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for selenium based on the toxicity characteristic leaching procedure (TCLP) in SW846. | Selenium | 7782-49-2 | 0.82 and meet § 268.48 standards ⁸ | 5.7 mg/L TCLP and meet §268.48 standards ⁸ |
| D011 ⁹ | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver based on the toxicity characteristic leaching procedure (TCLP) in | Silver | 7440-22-4 | 0.43 and meet §268.48 standards ⁸ | 0.14 mg/L TCLP and meet § 268.48 standards ⁸ |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | SW846. | | | | |
| D012 ⁹ | Wastes that are TC for Endrin based on the TCLP in SW846 Method 1311. | Endrin | 72-20-8 | BIODG; or CMBST | 0.13 and meet §268.48 standards ⁸ |
| | | Endrin aldehyde | 7421-93-4 | BIODG; or CMBST | 0.13 and meet § 268.48 standards ⁸ |
| D013 ⁹ | Wastes that are TC for Lindane based on the TCLP in SW846 Method 1311. | alpha-BHC | 319-84-6 | CARBN; or CMBST | 0.066 and meet §268.48 standards ⁸ |
| | | beta-BHC | 319-85-7 | CARBN; or CMBST | 0.066 and meet §268.48 standards ⁸ |
| | | delta-BHC | 319-86-8 | CARBN; or CMBST | 0.066 and meet §268.48 standards ⁸ |
| | | gamma-BHC (Lindane) | 58-89-9 | CARBN; or CMBST | 0.066 and meet §268.48 standards ⁸ |
| D014 ⁹ | Wastes that are TC for Methoxychlor based | Methoxychlor | 72-43-5 | WETOX or CMBST | 0.18 and meet |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | on the TCLP in SW846 Method 1311. | | | | §268.48 standards ⁸ |
| D015 ⁹ | Wastes that are TC for Toxaphene based on the TCLP in SW846 Method 1311. | Toxaphene | 8001-35-2 | BIODG or CMBST | 2.6 and meet §268.48 standards ⁸ |
| D016 ⁹ | Wastes that are TC for 2,4-D (2,4-Dichlorophenoxyacetic acid) based on the TCLP in SW846 Method 1311. | 2,4-D (2,4-Dichlorophenoxyacetic acid) | 94-75-7 | CHOXD, BIODG, or CMBST | 10 and meet §268.48 standards ⁸ |
| D017 ⁹ | Wastes that are TC for 2,4,5-TP (Silvex) based on the TCLP in SW846 Method 1311. | 2,4,5-TP (Silvex) | 93-72-1 | CHOXD or CMBST | 7.9 and meet §268.48 standards ⁸ |
| D018 ⁹ | Wastes that are TC for Benzene based on the TCLP in SW846 Method 1311. | Benzene | 71-43-2 | 0.14 and meet §268.48 standards ⁸ | 10 and meet §268.48 standards ⁸ |
| D019 ⁹ | Wastes that are TC for Carbon tetrachloride based on the TCLP in SW846 Method 1311. | Carbon tetrachloride | 56-23-5 | 0.057 and meet §268.48 standards ⁸ | 6.0 and meet §268.48 standards ⁸ |
| D020 ⁹ | Wastes that are TC for Chlordane based on the TCLP in SW846 Method 1311. | Chlordane (alpha and gamma isomers) | 57-74-9 | 0.0033 and meet §268.48 standards ⁸ | 0.26 and meet §268.48 standards ⁸ |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| D021 ⁹ | Wastes that are TC for Chlorobenzene based on the TCLP in SW846 Method 1311. | Chlorobenzene | 108-90-7 | 0.057 and meet §268.48 standards ⁸ | 6.0 and meet §268.48 standards ⁸ |
| D022 ⁹ | Wastes that are TC for Chloroform based on the TCLP in SW846 Method 1311. | Chloroform | 67-66-3 | 0.046 and meet §268.48 standards ⁸ | 6.0 and meet §268.48 standards ⁸ |
| D023 ⁹ | Wastes that are TC for o-Cresol based on the TCLP in SW846 Method 1311. | o-Cresol | 95-48-7 | 0.11 and meet §268.48 standards ⁸ | 5.6 and meet §268.48 standards ⁸ |
| D024 ⁹ | Wastes that are TC for m-Cresol based on the TCLP in SW846 Method 1311. | m-Cresol (difficult to distinguish from p-cresol) | 108-39-4 | 0.77 and meet §268.48 standards ⁸ | 5.6 and meet §268.48 standards ⁸ |
| D025 ⁹ | Wastes that are TC for p-Cresol based on the TCLP in SW846 Method 1311. | p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 and meet §268.48 standards ⁸ | 5.6 and meet §268.48 standards ⁸ |
| D026 ⁹ | Wastes that are TC for Cresols (Total) based on the TCLP in SW846 Method 1311. | Cresol-mixed isomers (Cresylic acid)(sum of o-, m-, and p-cresol concentrations) | 1319-77-3 | 0.88 and meet §268.48 standards ⁸ | 11.2 and meet §268.48 standards ⁸ |
| D027 ⁹ | Wastes that are TC for p-Dichlorobenzene | p-Dichlorobenzene (1,4- | 106-46-7 | 0.090 and meet | 6.0 and meet |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | based on the TCLP in SW846 Method 1311. | Dichlorobenzene) | | §268.48 standards ⁸ | §268.48 standards ⁸ |
| D028 ⁹ | Wastes that are TC for 1,2-Dichloroethane based on the TCLP in SW846 Method 1311. | 1,2-Dichloroethane | 107-06-2 | 0.21 and meet §268.48 standards ⁸ | 6.0 and meet §268.48 standards ⁸ |
| D029 ⁹ | Wastes that are TC for 1,1-Dichloroethylene based on the TCLP in SW846 Method 1311. | 1,1-Dichloroethylene | 75-35-4 | 0.025 and meet §268.48 standards ⁸ | 6.0 and meet §268.48 standards ⁸ |
| D030 ⁹ | Wastes that are TC for 2,4-Dinitrotoluene based on the TCLP in SW846 Method 1311. | 2,4-Dinitrotoluene | 121-14-2 | 0.32 and meet §268.48 standards ⁸ | 140 and meet §268.48 standards ⁸ |
| D031 ⁹ | Wastes that are TC for Heptachlor based on the TCLP in SW846 Method 1311. | Heptachlor | 76-44-8 | 0.0012 and meet §268.48 standards ⁸ | 0.066 and meet §268.48 standards ⁸ |
| | | Heptachlor epoxide | 1024-57-3 | 0.016 and meet §268.48 standards ⁸ | 0.066 and meet §268.48 standards ⁸ |
| D032 ⁹ | Wastes that are TC for Hexachlorobenzene based on the TCLP in SW846 Method 1311. | Hexachlorobenzene | 118-74-1 | 0.055 and meet §268.48 standards ⁸ | 10 and meet §268.48 standards ⁸ |
| D033 ⁹ | Wastes that are TC for | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|--------------------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | Hexachlorobutadiene based on the TCLP in SW846 Method 1311. | | | and meet §268.48 standards ⁸ | and meet §268.48 standards ⁸ |
| D034 ⁹ | Wastes that are TC for Hexachloroethane based on the TCLP in SW846 Method 1311. | Hexachloroethane | 67-72-1 | 0.055 and meet §268.48 standards ⁸ | 30 and meet §268.48 standards ⁸ |
| D035 ⁹ | Wastes that are TC for Methyl ethyl ketone based on the TCLP in SW846 Method 1311. | Methyl ethyl ketone | 78-93-3 | 0.28 and meet §268.48 standards ⁸ | 36 and meet §268.48 standards ⁸ |
| D036 ⁹ | Wastes that are TC for Nitrobenzene based on the TCLP in SW846 Method 1311. | Nitrobenzene | 98-95-3 | 0.068 and meet §268.48 standards ⁸ | 14 and meet §268.48 standards ⁸ |
| D037 ⁹ | Wastes that are TC for Pentachlorophenol based on the TCLP in SW846 Method 1311. | Pentachlorophenol | 87-86-5 | 0.089 and meet §268.48 standards ⁸ | 7.4 and meet §268.48 standards ⁸ |
| D038 ⁹ | Wastes that are TC for Pyridine based on the TCLP in SW846 Method 1311. | Pyridine | 110-86-1 | 0.014 and meet §268.48 standards ⁸ | 16 and meet §268.48 standards ⁸ |
| D039 ⁹ | Wastes that are TC for Tetrachloroethylene based on the TCLP in SW846 Method 1311. | Tetrachloroethylene | 127-18-4 | 0.056 and meet §268.48 | 6.0 and meet §268.48 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|---|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | standards ⁸ | standards ⁸ |
| D040 ⁹ | Wastes that are TC for Trichloroethylene based on the TCLP in SW846 Method 1311. | Trichloroethylene | 79-01-6 | 0.054 and meet §268.48 standards ⁸ | 6.0 and meet §268.48 standards ⁸ |
| D041 ⁹ | Wastes that are TC for 2,4,5-Trichlorophenol based on the TCLP in SW846 Method 1311. | 2,4,5-Trichlorophenol | 95-95-4 | 0.18 and meet §268.48 standards ⁸ | 7.4 and meet §268.48 standards ⁸ |
| D042 ⁹ | Wastes that are TC for 2,4,6-Trichlorophenol based on the TCLP in SW846 Method 1311. | 2,4,6-Trichlorophenol | 88-06-2 | 0.035 and meet §268.48 standards ⁸ | 7.4 and meet §268.48 standards ⁸ |
| D043 ⁹ | Wastes that are TC for Vinyl chloride based on the TCLP in SW846 Method 1311. | Vinyl chloride | 75-01-4 | 0.27 and meet §268.48 standards ⁸ | 6.0 and meet §268.48 standards ⁸ |
| F001, F002, F003, F004, & F005 | F001, F002, F003, F004 and/or F005 solvent wastes that contain any combination of one or more of the following spent solvents: acetone, benzene, n-butyl alcohol, carbon disulfide, carbon tetrachloride, chlorinated | Acetone | 67-64-1 | 0.28 | 160 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | n-Butyl alcohol | 71-36-3 | 5.6 | 2.6 |
| | | Carbon disulfide | 75-15-0 | 3.8 | NA |
| | | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| | | o-Cresol | 95-48-7 | 0.11 | 5.6 |
| | | | 108-39-4 | 0.77 | 5.6 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | fluorocarbons, chlorobenzene, o-cresol, m-cresol, p-cresol, cyclohexanone, o-dichlorobenzene, 2-ethoxyethanol, ethyl acetate, ethyl benzene, ethyl ether, isobutyl alcohol, methanol, methylene chloride, methyl ethyl ketone, methyl isobutyl ketone, nitrobenzene, 2-nitropropane, pyridine, tetrachloroethylene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethylene, trichloromonofluoromethane, and/or xylenes [except as specifically noted in other subcategories]. See further details of these listings in § 261.31 | m-Cresol (difficult to distinguish from p-cresol) | | | |
| | | p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 | 5.6 |
| | | Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations) | 1319-77-3 | 0.88 | 11.2 |
| | | Cyclohexanone | 108-94-1 | 0.36 | NA |
| | | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| | | Ethyl acetate | 141-78-6 | 0.34 | 33 |
| | | Ethyl benzene | 100-41-4 | 0.057 | 10 |
| | | Ethyl ether | 60-29-7 | 0.12 | 160 |
| | | Isobutyl alcohol | 78-83-1 | 5.6 | 170 |
| | | Methanol | 67-56-1 | 5.6 | NA |
| | | Methylene chloride | 75-9-2 | 0.089 | 30 |
| | | Methyl ethyl ketone | 78-93-3 | 0.28 | 36 |
| | | Methyl isobutyl ketone | 108-10-1 | 0.14 | 33 |
| | | Nitrobenzene | 98-95-3 | 0.068 | 14 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Pyridine | 110-86-1 | 0.014 | 16 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| | | 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| | | 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.057 | 30 |
| | | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| | | Trichloromonofluoromethane | 75-69-4 | 0.020 | 30 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | | | | |
| | F003 and/or F005 solvent wastes that contain any combination of one or more of the following three solvents as the only listed F001-5 solvents: carbon disulfide, cyclohexanone, and/or | Carbon disulfide | 75-15-0 | 3.8 | 4.8 mg/L TCLP |
| | | Cyclohexanone | 108-94-1 | 0.36 | 0.75 mg/L TCLP |
| | | Methanol | 67-56-1 | 5.6 | 0.75 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | methanol. (formerly 268.41(c)) | | | | |
| | F005 solvent waste containing 2-Nitropropane as the only listed F001-5 solvent. | 2-Nitropropane | 79-46-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | F005 solvent waste containing 2-Ethoxyethanol as the only listed F001-5 solvent. | 2-Ethoxyethanol | 110-80-5 | BIODG: or CMBST | CMBST |
| F006 | Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon | Cadmium | 7440-43-9 | 0.69 | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Silver | 7440-22-4 | NA | 0.14 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | steel; and (6) chemical etching and milling of aluminum. | | | | |
| F007 | Spent cyanide plating bath solutions from electroplating operations. | Cadmium | 7440-43-9 | NA | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Silver | 7440-22-4 | NA | 0.14 mg/L TCLP |
| F008 | Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process. | Cadmium | 7440-43-9 | NA | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Silver | 7440-22-4 | NA | 0.14 mg/L TCLP |
| F009 | Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process. | Cadmium | 7440-43-9 | NA | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Silver | 7440-22-4 | NA | 0.14 mg/L TCLP |
| F010 | Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process. | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | NA |
| F011 | Spent cyanide solutions from salt bath pot cleaning | Cadmium | 7440-43-9 | NA | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47- | 2.77 | 0.60 mg/L |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | from metal heat treating operations. | | 3 | | TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Silver | 7440-22-4 | NA | 0.14 mg/L TCLP |
| F012 | Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process. | Cadmium | 7440-43-9 | NA | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Silver | 7440-22-4 | NA | 0.14 mg/L TCLP |
| F019 | Wastewater treatment sludges from the | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------------------------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| F020, F021, F022, F023, F026 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of: (1) tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives, excluding wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F020); (2) | HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | TCDDs (All Tetrachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | pentachlorophenol, or of intermediates used to produce its derivatives (i.e., F021); (3) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (i.e., F022); and from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of: (1) tri- or tetrachlorophenols, excluding wastes from equipment used only for the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F023); (2) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (i.e., | 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| | | 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| | | 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | F026). | | | | |
| F024 | Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.31 or § 261.32.). | All F024 wastes | NA | CMBST ¹¹ | CMBST ¹¹ |
| | | 2-Chloro-1,3-butadiene | 126-99-8 | 0.057 | 0.28 |
| | | 3-Chloropropylene | 107-05-1 | 0.036 | 30 |
| | | 1,1-Dichloroethane | 75-34-3 | 0.059 | 6.0 |
| | | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| | | 1,2-Dichloropropane | 78-87-5 | 0.85 | 18 |
| | | cis-1,3-Dichloropropylene | 10061-01-5 | 0.036 | 18 |
| | | trans-1,3-Dichloropropylene | 10061-02-6 | 0.036 | 18 |
| | | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | | | | |
| F025 | Condensed light ends from the production of certain chlorinated | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. F025 - Light Ends Subcategory | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| | | 1,1-Dichloroethylene | 75-35-4 | 0.025 | 6.0 |
| | | Methylene chloride | 75-9-2 | 0.089 | 30 |
| | | 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| | | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| | | Vinyl chloride | 75-01-4 | 0.27 | 6.0 |
| | Spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Methylene chloride | 75-9-2 | 0.089 | 30 |
| | | 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| | | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| | | Vinyl chloride | 75-01-4 | 0.27 | 6.0 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | substitution. F025 - Spent Filters/Aids and Desiccants Subcategory | | | | |
| F027 | Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.). | HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | TCDDs (All Tetrachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| | | 2,4,6- | 88-06-2 | 0.035 | 7.4 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Trichlorophenol | | | |
| | | 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |
| F028 | Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Wastes Nos. F020, F021, F023, F026, and F027. | HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | TCDDs (All Tetrachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| | | 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |
| F032 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with § 261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and | Acenaphthene | 83-32-9 | 0.059 | 3.4 |
| | | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | 2-4-Dimethyl phenol | 105-67-9 | 0.036 | 14 |
| | | Fluorene | 86-73-7 | 0.059 | 3.4 |
| | | Hexachlorodibenzo-p-dioxins | NA | 0.000063, or CMBST ¹¹ | 0.001, or CMBST ¹¹ |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or penta-chlorophenol. | Hexachlorodibenzofurans | NA | 0.000063, or CMBST ¹¹ | 0.001, or CMBST ¹¹ |
| | | Indeno (1,2,3-c,d) pyrene | 193-39-5 | 0.0055 | 3.4 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Pentachlorodibenzo-p-dioxins | NA | 0.000063, or CMBST ¹¹ | 0.001, or CMBST ¹¹ |
| | | Pentachlorodibenzofurans | NA | 0.000035, or CMBST ¹¹ | 0.001, or CMBST ¹¹ |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Tetrachlorodibenzo-p-dioxins | NA | 0.000063, or CMBST ¹¹ | 0.001, or CMBST ¹¹ |
| | | Tetrachlorodibenzofurans | NA | 0.000063, or CMBST ¹¹ | 0.001, or CMBST ¹¹ |
| | | 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| | | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| F034 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. | Acenaphthene | 83-32-9 | 0.059 | 3.4 |
| | | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Fluorene | 86-73-7 | 0.059 | 3.4 |
| | | Indeno (1,2,3-c,d) pyrene | 193-39-5 | 0.0055 | 3.4 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| F035 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | creosote and/or pentachlorophenol. | | | | |
| F037 | Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non- | Acenaphthene | 83-32-9 | 0.059 | NA |
| | | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Di-n-butyl phthalate | 84-74-2 | 0.057 | 28 |
| | | Ethylbenzene | 100-41-4 | 0.057 | 10 |
| | | Fluorene | 86-73-7 | 0.059 | NA |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in <input type="checkbox"/> 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Nickel | 7440-02-0 | NA | 11 mg/L TCLP |
| F038 | Petroleum refinery secondary (emulsified) oil/water/solids separation sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Di-n-butyl phthalate | 84-74-2 | 0.057 | 28 |
| | | Ethylbenzene | 100-41-4 | 0.057 | 10 |
| | | Fluorene | 86-73-7 | 0.059 | NA |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air floatation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in <input type="checkbox"/> 261.31(b)(2) (including sludges and floats generated in one or more additional units after | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Nickel | 7440-02-0 | NA | 11 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | wastewaters have been treated in aggressive biological units) and F037, K048, and K051 are not included in this listing. | | | | |
| F039 | Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.). | Acenaphthylene | 208-96-8 | 0.059 | 3.4 |
| | | Acenaphthene | 83-32-9 | 0.059 | 3.4 |
| | | Acetone | 67-64-1 | 0.28 | 160 |
| | | Acetonitrile | 75-05-8 | 5.6 | NA |
| | | Acetophenone | 96-86-2 | 0.010 | 9.7 |
| | | 2-Acetylaminofluorene | 53-96-3 | 0.059 | 140 |
| | | Acrolein | 107-02-8 | 0.29 | NA |
| | | Acrylonitrile | 107-13-1 | 0.24 | 84 |
| | | Aldrin | 309-00-2 | 0.021 | 0.066 |
| | | 4-Aminobiphenyl | 92-67-1 | 0.13 | NA |
| | | Aniline | 62-53-3 | 0.81 | 14 |
| | | o-Anisidine (2-methoxyaniline) | 90-04-0 | 0.010 | 0.66 |
| | | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Aramite | 140-57-8 | 0.36 | NA |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | alpha-BHC | 319-84-6 | 0.00014 | 0.066 |
| | | beta-BHC | 319-85-7 | 0.00014 | 0.066 |
| | | delta-BHC | 319-86-8 | 0.023 | 0.066 |
| | | gamma-BHC | 58-89-9 | 0.0017 | 0.066 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Benzo(g,h,i)perylene | 191-24-2 | 0.0055 | 1.8 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Bromodichloromethane | 75-27-4 | 0.35 | 15 |
| | | Methyl bromide (Bromomethane) | 74-83-9 | 0.11 | 15 |
| | | 4-Bromophenyl phenyl ether | 101-55-3 | 0.055 | 15 |
| | | n-Butyl alcohol | 71-36-3 | 5.6 | 2.6 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Butyl benzyl phthalate | 85-68-7 | 0.017 | 28 |
| | | 2-sec-Butyl-4,6-dinitrophenol (Dinoseb) | 88-85-7 | 0.066 | 2.5 |
| | | Carbon disulfide | 75-15-0 | 3.8 | NA |
| | | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chlordane (alpha and gamma isomers) | 57-74-9 | 0.0033 | 0.26 |
| | | p-Chloroaniline | 106-47-8 | 0.46 | 16 |
| | | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| | | Chlorobenzilate | 510-15-6 | 0.10 | NA |
| | | 2-Chloro-1,3-butadiene | 126-99-8 | 0.057 | NA |
| | | Chlorodibromomethane | 124-48-1 | 0.057 | 15 |
| | | Chloroethane | 75-00-3 | 0.27 | 6.0 |
| | | bis(2-Chloroethoxy)methane | 111-91-1 | 0.036 | 7.2 |
| | | bis(2-Chloroethyl)ether | 111-44-4 | 0.033 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | bis(2- | 39638- | 0.055 | 7.2 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Chloroisopropyl)ether | 32-9 | | |
| | | p-Chloro-m-cresol | 59-50-7 | 0.018 | 14 |
| | | Chloromethane (Methyl chloride) | 74-87-3 | 0.19 | 30 |
| | | 2-Chloronaphthalene | 91-58-7 | 0.055 | 5.6 |
| | | 2-Chlorophenol | 95-57-8 | 0.044 | 5.7 |
| | | 3-Chloropropylene | 107-05-1 | 0.036 | 30 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | p-Cresidine | 120-71-8 | 0.010 | 0.66 |
| | | o-Cresol | 95-48-7 | 0.11 | 5.6 |
| | | m-Cresol (difficult to distinguish from p-cresol) | 108-39-4 | 0.77 | 5.6 |
| | | p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 | 5.6 |
| | | Cyclohexanone | 108-94-1 | 0.36 | NA |
| | | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.11 | 15 |
| | | Ethylene dibromide (1,2-Dibromoethane) | 106-93-4 | 0.028 | 15 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Dibromomethane | 74-95-3 | 0.11 | 15 |
| | | 2,4-D (2,4-Dichlorophenoxyacetic acid) | 94-75-7 | 0.72 | 10 |
| | | o,p'-DDD | 53-19-0 | 0.023 | 0.087 |
| | | p,p'-DDD | 72-54-8 | 0.023 | 0.087 |
| | | o,p'-DDE | 3424-82-6 | 0.031 | 0.087 |
| | | p,p'-DDE | 72-55-9 | 0.031 | 0.087 |
| | | o,p'-DDT | 789-02-6 | 0.0039 | 0.087 |
| | | p,p'-DDT | 50-29-3 | 0.0039 | 0.087 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Dibenz(a,e)pyrene | 192-65-4 | 0.061 | NA |
| | | m-Dichlorobenzene | 541-73-1 | 0.036 | 6.0 |
| | | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| | | Dichlorodifluoromethane | 75-71-8 | 0.23 | 7.2 |
| | | 1,1-Dichloroethane | 75-34-3 | 0.059 | 6.0 |
| | | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| | | 1,1-Dichloroethylene | 75-35-4 | 0.025 | 6.0 |
| | | trans-1,2- | 156-60-5 | 0.054 | 30 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Dichloroethylene | | | |
| | | 2,4-Dichlorophenol | 120-83-2 | 0.044 | 14 |
| | | 2,6-Dichlorophenol | 87-65-0 | 0.044 | 14 |
| | | 1,2-Dichloropropane | 78-87-5 | 0.85 | 18 |
| | | cis-1,3-Dichloropropylene | 10061-01-5 | 0.036 | 18 |
| | | trans-1,3-Dichloropropylene | 10061-02-6 | 0.036 | 18 |
| | | Dieldrin | 60-57-1 | 0.017 | 0.13 |
| | | Diethyl phthalate | 84-66-2 | 0.20 | 28 |
| | | 2,4-Dimethylaniline (2,4-xylydine) | 95-68-1 | 0.010 | 0.66 |
| | | 2,4-Dimethyl phenol | 105-67-9 | 0.036 | 14 |
| | | Dimethyl phthalate | 131-11-3 | 0.047 | 28 |
| | | Di-n-butyl phthalate | 84-74-2 | 0.057 | 28 |
| | | 1,4-Dinitrobenzene | 100-25-4 | 0.32 | 2.3 |
| | | 4,6-Dinitro-o-cresol | 534-52-1 | 0.28 | 160 |
| | | 2,4-Dinitrophenol | 51-28-5 | 0.12 | 160 |
| | | 2,4-Dinitrotoluene | 121-14-2 | 0.32 | 140 |
| | | 2,6-Dinitrotoluene | 606-20-2 | 0.55 | 28 |
| | | Di-n-octyl phthalate | 117-84-0 | 0.017 | 28 |
| | | Di-n-propylnitrosamine | 621-64-7 | 0.40 | 14 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 1,4-Dioxane | 123-91-1 | 12.0 | 170 |
| | | Diphenylamine (difficult to distinguish from diphenylnitrosamine) | 122-39-4 | 0.92 | NA |
| | | Diphenylnitrosamine (difficult to distinguish from diphenylamine) | 86-30-6 | 0.92 | NA |
| | | 1,2-Diphenylhydrazine | 122-66-7 | 0.087 | NA |
| | | Disulfoton | 298-04-4 | 0.017 | 6.2 |
| | | Endosulfan I | 939-98-8 | 0.023 | 0.066 |
| | | Endosulfan II | 33213-6-5 | 0.029 | 0.13 |
| | | Endosulfan sulfate | 1031-07-8 | 0.029 | 0.13 |
| | | Endrin | 72-20-8 | 0.0028 | 0.13 |
| | | Endrin aldehyde | 7421-93-4 | 0.025 | 0.13 |
| | | Ethyl acetate | 141-78-6 | 0.34 | 33 |
| | | Ethyl cyanide (Propanenitrile) | 107-12-0 | 0.24 | 360 |
| | | Ethyl benzene | 100-41-4 | 0.057 | 10 |
| | | Ethyl ether | 60-29-7 | 0.12 | 160 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | Ethyl methacrylate | 97-63-2 | 0.14 | 160 |
| | | Ethylene oxide | 75-21-8 | 0.12 | NA |
| | | Famphur | 52-85-7 | 0.017 | 15 |
| | | Fluoranthene | 206-44-0 | 0.068 | 3.4 |
| | | Fluorene | 86-73-7 | 0.059 | 3.4 |
| | | Heptachlor | 76-44-8 | 0.0012 | 0.066 |
| | | Heptachlor epoxide | 1024-57-3 | 0.016 | 0.066 |
| | | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| | | Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |
| | | HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Hexachloropropylene | 1888-71-7 | 0.035 | 30 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Indeno (1,2,3-c,d) pyrene | 193-39-5 | 0.0055 | 3.4 |
| | | Iodomethane | 74-88-4 | 0.19 | 65 |
| | | Isobutyl alcohol | 78-83-1 | 5.6 | 170 |
| | | Isodrin | 465-73-6 | 0.021 | 0.066 |
| | | Isosafrole | 120-58-1 | 0.081 | 2.6 |
| | | Kepone | 143-50-8 | 0.0011 | 0.13 |
| | | Methacrylonitrile | 126-98-7 | 0.24 | 84 |
| | | Methanol | 67-56-1 | 5.6 | NA |
| | | Methapyrilene | 91-80-5 | 0.081 | 1.5 |
| | | Methoxychlor | 72-43-5 | 0.25 | 0.18 |
| | | 3-Methylcholanthrene | 56-49-5 | 0.0055 | 15 |
| | | 4,4-Methylene bis(2-chloroaniline) | 101-14-4 | 0.50 | 30 |
| | | Methylene chloride | 75-09-2 | 0.089 | 30 |
| | | Methyl ethyl ketone | 78-93-3 | 0.28 | 36 |
| | | Methyl isobutyl ketone | 108-10-1 | 0.14 | 33 |
| | | Methyl methacrylate | 80-62-6 | 0.14 | 160 |
| | | Methyl methansulfonate | 66-27-3 | 0.018 | NA |
| | | Methyl parathion | 298-00-0 | 0.014 | 4.6 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | 2-Naphthylamine | 91-59-8 | 0.52 | NA |
| | | p-Nitroaniline | 100-01-6 | 0.028 | 28 |
| | | Nitrobenzene | 98-95-3 | 0.068 | 14 |
| | | 5-Nitro-o-toluidine | 99-55-8 | 0.32 | 28 |
| | | p-Nitrophenol | 100-02-7 | 0.12 | 29 |
| | | N-Nitrosodiethylamine | 55-18-5 | 0.40 | 28 |
| | | N-Nitrosodimethylamine | 62-75-9 | 0.40 | NA |
| | | N-Nitroso-di-n-butylamine | 924-16-3 | 0.40 | 17 |
| | | N-Nitrosomethylethylamine | 10595-95-6 | 0.40 | 2.3 |
| | | N-Nitrosomorpholine | 59-89-2 | 0.40 | 2.3 |
| | | N-Nitrosopiperidine | 100-75-4 | 0.013 | 35 |
| | | N-Nitrosopyrrolidine | 930-55-2 | 0.013 | 35 |
| | | Parathion | 56-38-2 | 0.014 | 4.6 |
| | | Total PCBs (sum of all PCB isomers, or all | 1336-36-3 | 0.10 | 10 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Aroclors) | | | |
| | | Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| | | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| | | Pentachloronitrobenzene | 82-68-8 | 0.055 | 4.8 |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | Phenacetin | 62-44-2 | 0.081 | 16 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | 1,3-Phenylenediamine | 108-45-2 | 0.010 | 0.66 |
| | | Phorate | 298-02-2 | 0.021 | 4.6 |
| | | Phthalic anhydride | 85-44-9 | 0.055 | NA |
| | | Pronamide | 23950-58-5 | 0.093 | 1.5 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Pyridine | 110-86-1 | 0.014 | 16 |
| | | Safrole | 94-59-7 | 0.081 | 22 |
| | | Silvex (2,4,5-TP) | 93-72-1 | 0.72 | 7.9 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 2,4,5-T | 93-76-5 | 0.72 | 7.9 |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| | | TCDDs (All Tetrachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | 1,1,1,2-Tetrachloroethane | 630-20-6 | 0.057 | 6.0 |
| | | 1,1,2,2-Tetrachloroethane | 79-34-6 | 0.057 | 6.0 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Toxaphene | 8001-35-2 | 0.0095 | 2.6 |
| | | Bromoform (Tribromomethane) | 75-25-2 | 0.63 | 15 |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| | | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| | | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| | | Trichloromonofluoromethane | 75-69-4 | 0.020 | 30 |
| | | 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| | | 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| | | 1,2,3-Trichloropropane | 96-18-4 | 0.85 | 30 |
| | | 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.057 | 30 |
| | | tris(2,3-Dibromopropyl) phosphate | 126-72-7 | 0.11 | NA |
| | | Vinyl chloride | 75-01-4 | 0.27 | 6.0 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Antimony | 7440-36-0 | 1.9 | 1.15 mg/L TCLP |
| | | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Barium | 7440-39-3 | 1.2 | 21 mg/L TCLP |
| | | Beryllium | 7440-41-7 | 0.82 | NA |
| | | Cadmium | 7440-43-9 | 0.69 | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | NA |
| | | Fluoride | 16964-48-8 | 35 | NA |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Mercury | 7439-97-6 | 0.15 | 0.025 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Selenium | 7782-49-2 | 0.82 | 5.7 mg/L TCLP |
| | | Silver | 7440-22-4 | 0.43 | 0.14 mg/L TCLP |
| | | Sulfide | 8496-25-8 | 14 | NA |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Thallium | 7440-28-0 | 1.4 | NA |
| | | Vanadium | 7440-62-2 | 4.3 | NA |
| K001 | Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol. | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K002 | Wastewater treatment sludge from the production of chrome yellow and orange pigments. | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K003 | Wastewater treatment sludge from the production of molybdate orange pigments. | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| K004 | Wastewater treatment sludge from the production of zinc yellow pigments. | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K005 | Wastewater treatment sludge from the production of chrome green pigments. | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| K006 | Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous). | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | Wastewater treatment sludge from the production of chrome oxide green pigments (hydrated). | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | NA |
| K007 | Wastewater treatment sludge from the production of iron blue pigments. | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| K008 | Oven residue from the production of chrome oxide green pigments. | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K009 | Distillation bottoms from the production of acetaldehyde from ethylene. | Chloroform | 67-66-3 | 0.046 | 6.0 |
| K010 | Distillation side cuts from the production of acetaldehyde from ethylene. | Chloroform | 67-66-3 | 0.046 | 6.0 |
| K011 | Bottom stream from the wastewater stripper in the production of acrylonitrile. | Acetonitrile | 75-05-8 | 5.6 | 38 |
| | | Acrylonitrile | 107-13-1 | 0.24 | 84 |
| | | Acrylamide | 79-06-1 | 19 | 23 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Cyanide (Total) | 57-12-5 | 1.2 | 590 |
| K013 | Bottom stream from the acetonitrile column in the production of acrylonitrile. | Acetonitrile | 75-05-8 | 5.6 | 38 |
| | | Acrylonitrile | 107-13-1 | 0.24 | 84 |
| | | Acrylamide | 79-06-1 | 19 | 23 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Cyanide (Total) | 57-12-5 | 1.2 | 590 |
| K014 | Bottoms from the acetonitrile purification column in the production of | Acetonitrile | 75-05-8 | 5.6 | 38 |
| | | Acrylonitrile | 107-13-1 | 0.24 | 84 |
| | | Acrylamide | 79-06-1 | 19 | 23 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | acrylonitrile. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Cyanide (Total) | 57-12-5 | 1.2 | 590 |
| K015 | Still bottoms from the distillation of benzyl chloride. | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Benzal chloride | 98-87-3 | 0.055 | 6.0 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| K016 | Heavy ends or distillation residues from the production of carbon tetrachloride. | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| | | Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| K017 | Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin. | bis(2-Chloroethyl)ether | 111-44-4 | 0.033 | 6.0 |
| | | 1,2-Dichloropropane | 78-87-5 | 0.85 | 18 |
| | | 1,2,3-Trichloropropane | 96-18-4 | 0.85 | 30 |
| K018 | Heavy ends from the fractionation column in ethyl chloride production. | Chloroethane | 75-00-3 | 0.27 | 6.0 |
| | | Chloromethane | 74-87-3 | 0.19 | NA |
| | | 1,1-Dichloroethane | 75-34-3 | 0.059 | 6.0 |
| | | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| | | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Pentachloroethane | 76-01-7 | NA | 6.0 |
| | | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| K019 | Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production. | bis(2-Chloroethyl)ether | 111-44-4 | 0.033 | 6.0 |
| | | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | NA |
| | | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Fluorene | 86-73-7 | 0.059 | NA |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | NA |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| | | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| K020 | Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production. | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| | | 1,1,2,2-Tetrachloroethane | 79-34-6 | 0.057 | 6.0 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| K021 | Aqueous spent antimony catalyst waste from fluoromethanes production. | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Antimony | 7440-36-0 | 1.9 | 1.15 mg/L TCLP |
| K022 | Distillation bottom tars from the production of phenol/acetone from cumene. | Toluene | 108-88-3 | 0.080 | 10 |
| | | Acetophenone | 96-86-2 | 0.010 | 9.7 |
| | | Diphenylamine (difficult to | 122-39-4 | 0.92 | 13 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | distinguish from diphenylnitrosamine) | | | |
| | | Diphenylnitrosamine (difficult to distinguish from diphenylamine) | 86-30-6 | 0.92 | 13 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| K023 | Distillation light ends from the production of phthalic anhydride from naphthalene. | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 100-21-0 | 0.055 | 28 |
| | | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 85-44-9 | 0.055 | 28 |
| K024 | Distillation bottoms from the production of phthalic anhydride from naphthalene. | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 100-21-0 | 0.055 | 28 |
| | | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 85-44-9 | 0.055 | 28 |
| K025 | Distillation bottoms | NA | NA | LLEXT fb | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | from the production of nitrobenzene by the nitration of benzene. | | | SSTRP fb CARBN; or CMBST | |
| K026 | Stripping still tails from the production of methyl ethyl pyridines. | NA | NA | CMBST | CMBST |
| K027 | Centrifuge and distillation residues from toluene diisocyanate production. | NA | NA | CARBN; or CMBST | CMBST |
| K028 | Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane. | 1,1-Dichloroethane | 75-34-3 | 0.059 | 6.0 |
| | | trans-1,2-Dichloroethylene | 156-60-5 | 0.054 | 30 |
| | | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Pentachloroethane | 76-01-7 | NA | 6.0 |
| | | 1,1,1,2-Tetrachloroethane | 630-20-6 | 0.057 | 6.0 |
| | | 1,1,2,2-Tetrachloroethane | 79-34-6 | 0.057 | 6.0 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| | | 1,1,2- | 79-00-5 | 0.054 | 6.0 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Trichloroethane | | | |
| | | Cadmium | 7440-43-9 | 0.69 | NA |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| K029 | Waste from the product steam stripper in the production of 1,1,1-trichloroethane. | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| | | 1,1-Dichloroethylene | 75-35-4 | 0.025 | 6.0 |
| | | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| | | Vinyl chloride | 75-01-4 | 0.27 | 6.0 |
| K030 | Column bodies or heavy ends from the combined production of trichloroethylene and perchloroethylene. | o-Dichlorobenzene | 95-50-1 | 0.088 | NA |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | NA |
| | | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Hexachloropropylene | 1888-71-7 | NA | 30 |
| | | Pentachlorobenzene | 608-93-5 | NA | 10 |
| | | Pentachloroethane | 76-01-7 | NA | 6.0 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|-------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| K031 | By-product salts generated in the production of MSMA and cacodylic acid. | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| K032 | Wastewater treatment sludge from the production of chlordane. | Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |
| | | Chlordane (alpha and gamma isomers) | 57-74-9 | 0.0033 | 0.26 |
| | | Heptachlor | 76-44-8 | 0.0012 | 0.066 |
| | | Heptachlor epoxide | 1024-57-3 | 0.016 | 0.066 |
| K033 | Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane. | Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |
| K034 | Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane. | Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| K035 | Wastewater treatment sludges generated in the production of creosote. | Acenaphthene | 83-32-9 | NA | 3.4 |
| | | Anthracene | 120-12-7 | NA | 3.4 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | o-Cresol | 95-48-7 | 0.11 | 5.6 |
| | | m-Cresol (difficult to distinguish from p-cresol) | 108-39-4 | 0.77 | 5.6 |
| | | p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 | 5.6 |
| | | Dibenz(a,h)anthracene | 53-70-3 | NA | 8.2 |
| | | Fluoranthene | 206-44-0 | 0.068 | 3.4 |
| | | Fluorene | 86-73-7 | NA | 3.4 |
| | | Indeno(1,2,3-cd)pyrene | 193-39-5 | NA | 3.4 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| K036 | Still bottoms from | Disulfoton | 298-04-4 | 0.017 | 6.2 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | toluene reclamation distillation in the production of disulfoton. | | | | |
| K037 | Wastewater treatment sludges from the production of disulfoton. | Disulfoton | 298-04-4 | 0.017 | 6.2 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| K038 | Wastewater from the washing and stripping of phorate production. | Phorate | 298-02-2 | 0.021 | 4.6 |
| K039 | Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate. | NA | NA | CARBN; or CMBST | CMBST |
| K040 | Wastewater treatment sludge from the production of phorate. | Phorate | 298-02-2 | 0.021 | 4.6 |
| K041 | Wastewater treatment sludge from the production of toxaphene. | Toxaphene | 8001-35-2 | 0.0095 | 2.6 |
| K042 | Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T. | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| | | Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| K043 | 2,6-Dichlorophenol waste from the production of 2,4-D. | 2,4-Dichlorophenol | 120-83-2 | 0.044 | 14 |
| | | 2,6-Dichlorophenol | 187-65-0 | 0.044 | 14 |
| | | 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| | | 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| | | 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| | | TCDDs (All | NA | 0.000063 | 0.001 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|--------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Tetrachlorodibenzo-p-dioxins) | | | |
| | | TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| K044 | Wastewater treatment sludges from the manufacturing and processing of explosives. | NA | NA | DEACT | DEACT |
| K045 | Spent carbon from the treatment of wastewater containing explosives. | NA | NA | DEACT | DEACT |
| K046 | Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds. | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K047 | Pink/red water from TNT operations | NA | NA | DEACT | DEACT |
| K048 | Dissolved air flotation (DAF) float from the petroleum refining industry. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Di-n-butyl phthalate | 84-74-2 | 0.057 | 28 |
| | | Ethylbenzene | 100-41-4 | 0.057 | 10 |
| | | Fluorene | 86-73-7 | 0.059 | NA |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene | 108-88-33 | 0.080 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Nickel | 7440-02-0 | NA | 11 mg/L TCLP |
| K049 | Slop oil emulsion solids from the petroleum refining industry. | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | Carbon disulfide | 75-15-0 | 3.8 | NA |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | 2,4-Dimethylphenol | 105-67-9 | 0.036 | NA |
| | | Ethylbenzene | 100-41-4 | 0.057 | 10 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Nickel | 7440-02-0 | NA | 11 mg/L TCLP |
| K050 | Heat exchanger | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | bundle cleaning sludge from the petroleum refining industry. | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Nickel | 7440-02-0 | NA | 11 mg/L TCLP |
| K051 | API separator sludge from the petroleum refining industry. | Acenaphthene | 83-32-9 | 0.059 | NA |
| | | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Di-n-butyl phthalate | 105-67-9 | 0.057 | 28 |
| | | Ethylbenzene | 100-41-4 | 0.057 | 10 |
| | | Fluorene | 86-73-7 | 0.059 | NA |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene | 108-88-3 | 0.08 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Nickel | 7440-02-0 | NA | 11 mg/L TCLP |
| K052 | Tank bottoms (leaded) from the petroleum refining industry. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | o-Cresol | 95-48-7 | 0.11 | 5.6 |
| | | m-Cresol (difficult to distinguish from p-cresol) | 108-39-4 | 0.77 | 5.6 |
| | | p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 | 5.6 |
| | | 2,4-Dimethylphenol | 105-67-9 | 0.036 | NA |
| | | Ethylbenzene | 100-41-4 | 0.057 | 10 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Toluene | 108-88-3 | 0.08 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Nickel | 7440-02-0 | NA | 11 mg/L TCLP |
| K060 | Ammonia still lime sludge from coking operations. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| K061 | Emission control dust/sludge from the primary production of steel in electric furnaces. | Antimony | 7440-36-0 | NA | 1.15 mg/L TCLP |
| | | Arsenic | 7440-38-2 | NA | 5.0 mg/L TCLP |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Barium | 7440-39-3 | NA | 21 mg/L TCLP |
| | | Beryllium | 7440-41-7 | NA | 1.22 mg/L TCLP |
| | | Cadmium | 7440-43-9 | 0.69 | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Mercury | 7439-97-6 | NA | 0.025 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Selenium | 7782-49-2 | NA | 5.7 mg/L TCLP |
| | | Silver | 7440-22-4 | NA | 0.14 mg/L TCLP |
| | | Thallium | 7440-28-0 | NA | 0.20 mg/L TCLP |
| | | Zinc | 7440-66-6 | NA | 4.3 mg/L TCLP |
| K062 | Spent pickle liquor generated by steel finishing operations of facilities within the | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | iron and steel industry (SIC Codes 331 and 332). | Nickel | 7440-02-0 | 3.98 | NA |
| K069 | Emission control dust/sludge from secondary lead smelting. - Calcium Sulfate (Low Lead) Subcategory | Cadmium | 7440-43-9 | 0.69 | 0.11 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | Emission control dust/sludge from secondary lead smelting. - Non-Calcium Sulfate (High Lead) Subcategory | NA | NA | NA | RLEAD |
| K071 | K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used) non-wastewaters that are residues from RMERC. | Mercury | 7439-97-6 | NA | 0.20 mg/L TCLP |
| | K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified | Mercury | 7439-97-6 | NA | 0.025 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | brine is not used.) non-wastewaters that are not residues from RMERC. | | | | |
| | All K071 wastewaters. | Mercury | 7439-97-6 | 0.15 | NA |
| K073 | Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production. | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| K083 | Distillation bottoms from aniline production. | Aniline | 62-53-3 | 0.81 | 14 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Cyclohexanone | 108-94-1 | 0.36 | NA |
| | | Diphenylamine (difficult to distinguish from diphenylnitrosamine) | 122-39-4 | 0.92 | 13 |
| | | Diphenylnitrosamine (difficult to distinguish from diphenylamine) | 86-30-6 | 0.92 | 13 |
| | | Nitrobenzene | 98-95-3 | 0.068 | 14 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| K084 | Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| K085 | Distillation or fractionation column bottoms from the production of chlorobenzenes. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| | | m-Dichlorobenzene | 541-73-1 | 0.036 | 6.0 |
| | | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| | | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Total PCBs (sum of all PCB isomers, or all Aroclors) | 1336-36-3 | 0.10 | 10 |
| | | Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| K086 | Solvent wastes and sludges, caustic washes and sludges, | Acetone | 67-64-1 | 0.28 | 160 |
| | | Acetophenone | 96-86-2 | 0.010 | 9.7 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead. | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| | | n-Butyl alcohol | 71-36-3 | 5.6 | 2.6 |
| | | Butylbenzyl phthalate | 85-68-7 | 0.017 | 28 |
| | | Cyclohexanone | 108-94-1 | 0.36 | NA |
| | | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| | | Diethyl phthalate | 84-66-2 | 0.20 | 28 |
| | | Dimethyl phthalate | 131-11-3 | 0.047 | 28 |
| | | Di-n-butyl phthalate | 84-74-2 | 0.057 | 28 |
| | | Di-n-octyl phthalate | 117-84-0 | 0.017 | 28 |
| | | Ethyl acetate | 141-78-6 | 0.34 | 33 |
| | | Ethylbenzene | 100-41-4 | 0.057 | 10 |
| | | Methanol | 67-56-1 | 5.6 | NA |
| | | Methyl ethyl ketone | 78-93-3 | 0.28 | 36 |
| | | Methyl isobutyl ketone | 108-10-1 | 0.14 | 33 |
| | | Methylene chloride | 75-09-2 | 0.089 | 30 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Nitrobenzene | 98-95-3 | 0.068 | 14 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | 1,1,1- | 71-55-6 | 0.054 | 6.0 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Trichloroethane | | | |
| | | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K087 | Decanter tank tar sludge from coking operations. | Acenaphthylene | 208-96-8 | 0.059 | 3.4 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Fluoranthene | 206-44-0 | 0.068 | 3.4 |
| | | Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K088 | Spent potliners from primary aluminum reduction. | Acenaphthene | 83-32-9 | 0.059 | 3.4 |
| | | Anthracene | 120-12-7 | 0.059 | 3.4 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Benzo(b)fluoranthene | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene | 207-08-9 | 0.11 | 6.8 |
| | | Benzo(g,h,i)perylene | 191-24-2 | 0.0055 | 1.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Fluoranthene | 206-44-0 | 0.068 | 3.4 |
| | | Indeno(1,2,3,-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Antimony | 7440-36-0 | 1.9 | 1.15 mg/L TCLP |
| | | Arsenic | 7440-38-2 | 1.4 | 26.1 mg/kg |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Barium | 7440-39-3 | 1.2 | 21 mg/L TCLP |
| | | Beryllium | 7440-41-7 | 0.82 | 1.22 mg/L TCLP |
| | | Cadmium | 7440-43-9 | 0.69 | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Mercury | 7439-97-6 | 0.15 | 0.025 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11.0 mg/L TCLP |
| | | Selenium | 7782-49-2 | 0.82 | 5.7 mg/L TCLP |
| | | Silver | 7440-22-4 | 0.43 | 0.14 mg/L TCLP |
| | | Cyanide (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanide (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Fluoride | 16984-48-8 | 35 | N/A |
| K093 | Distillation light ends from the production of phthalic anhydride from ortho-xylene. | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 100-21-0 | 0.055 | 28 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 85-44-9 | 0.055 | 28 |
| K094 | Distillation bottoms from the production of phthalic anhydride from ortho-xylene. | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 100-21-0 | 0.055 | 28 |
| | | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 85-44-9 | 0.055 | 28 |
| K095 | Distillation bottoms from the production of 1,1,1-trichloroethane. | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| | | Pentachloroethane | 76-01-7 | 0.055 | 6.0 |
| | | 1,1,1,2-Tetrachloroethane | 630-20-6 | 0.057 | 6.0 |
| | | 1,1,2,2-Tetrachloroethane | 79-34-6 | 0.057 | 6.0 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| | | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| K096 | Heavy ends from the heavy ends column from the production of 1,1,1- | m-Dichlorobenzene | 541-73-1 | 0.036 | 6.0 |
| | | Pentachloroethane | 76-01-7 | 0.055 | 6.0 |
| | | 1,1,1,2- | 630-20-6 | 0.057 | 6.0 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | trichloroethane. | Tetrachloroethane | | | |
| | | 1,1,2,2-Tetrachloroethane | 79-34-6 | 0.057 | 6.0 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| | | 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| | | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| K097 | Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane. | Chlordane (alpha and gamma isomers) | 57-74-9 | 0.0033 | 0.26 |
| | | Heptachlor | 76-44-8 | 0.0012 | 0.066 |
| | | Heptachlor epoxide | 1024-57-3 | 0.016 | 0.066 |
| | | Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |
| K098 | Untreated process wastewater from the production of toxaphene. | Toxaphene | 8001-35-2 | 0.0095 | 2.6 |
| K099 | Untreated wastewater from the production of 2,4-D. | 2,4-Dichlorophenoxyacetic acid | 94-75-7 | 0.72 | 10 |
| | | HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| | | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| | | TCDDs (All Tetrachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| | | TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| K100 | Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting. | Cadmium | 7440-43-9 | 0.69 | 0.11 mg/L TCLP |
| | | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| K101 | Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary | o-Nitroaniline | 88-74-4 | 0.27 | 14 |
| | | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| | | Cadmium | 7440-43-9 | 0.69 | NA |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | pharmaceuticals from arsenic or organo-arsenic compounds. | Lead | 7439-92-1 | 0.69 | NA |
| | | Mercury | 7439-97-6 | 0.15 | NA |
| K102 | Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. | o-Nitrophenol | 88-75-5 | 0.028 | 13 |
| | | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| | | Cadmium | 7440-43-9 | 0.69 | NA |
| | | Lead | 7439-92-1 | 0.69 | NA |
| | | Mercury | 7439-97-6 | 0.15 | NA |
| K103 | Process residues from aniline extraction from the production of aniline. | Aniline | 62-53-3 | 0.81 | 14 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | 2,4-Dinitrophenol | 51-28-5 | 0.12 | 160 |
| | | Nitrobenzene | 98-95-3 | 0.068 | 14 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| K104 | Combined wastewater streams generated from nitrobenzene/aniline production. | Aniline | 62-53-3 | 0.81 | 14 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | 2,4-Dinitrophenol | 51-28-5 | 0.12 | 160 |
| | | Nitrobenzene | 98-95-3 | 0.068 | 14 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| K105 | Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| | | 2-Chlorophenol | 95-57-8 | 0.044 | 5.7 |
| | | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| | | 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| K106 | K106 (wastewater treatment sludge from the mercury cell process in chlorine production) non-wastewaters that contain greater than or equal to 260 mg/kg total mercury. | Mercury | 7439-97-6 | NA | RMERC |
| | K106 (wastewater treatment sludge from the mercury cell process in chlorine production) non-wastewaters that contain less than 260 | Mercury | 7439-97-6 | NA | 0.20 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | mg/kg total mercury that are residues from RMERC. | | | | |
| | Other K106 non-wastewaters that contain less than 260 mg/kg total mercury and are not residues from RMERC. | Mercury | 7439-97-6 | NA | 0.025 mg/L TCLP |
| | All K106 wastewaters. | Mercury | 7439-97-6 | 0.15 | NA |
| K107 | Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. | NA | NA | CMBST; or CHOXD fb CARBN; or BIODG fb CARBN | CMBST |
| K108 | Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. | NA | NA | CMBST; or CHOXD fb CARBN; or BIODG fb CARBN | CMBST |
| K109 | Spent filter cartridges | NA | NA | CMBST; or | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. | | | CHOXD fb CARBN; or BIODG fb CARBN | |
| K110 | Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. | NA | NA | CMBST; or CHOXD fb CARBN; or BIODG fb CARBN | CMBST |
| K111 | Product washwaters from the production of dinitrotoluene via nitration of toluene | 2,4-Dinitrotoluene | 121-14-2 | 0.32 | 140 |
| | | 2,6-Dinitrotoluene | 606-20-2 | 0.55 | 28 |
| K112 | Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene. | NA | NA | CMBST; or CHOXD fb CARBN; or BIODG fb CARBN | CMBST |
| K113 | Condensed liquid light ends from the purification of toluenediamine in the | NA | NA | CARBN; OR CMBST | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | production of toluenediamine via hydrogenation of dinitrotoluene. | | | | |
| K114 | Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | NA | NA | CARBN; or CMBST | CMBST |
| K115 | Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | NA | NA | CARBN; or CMBST | CMBST |
| K116 | Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine. | NA | NA | CARBN; or CMBST | CMBST |
| K117 | Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of | Methyl bromide (Bromomethane) | 74-83-9 | 0.11 | 15 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Ethylene dibromide (1,2-Dibromoethane) | 106-93-4 | 0.028 | 15 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | ethene. | | | | |
| K118 | Spent absorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. | Methyl bromide (Bromomethane) | 74-83-9 | 0.11 | 15 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Ethylene dibromide (1,2-Dibromoethane) | 106-93-4 | 0.028 | 15 |
| K123 | Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts. | NA | NA | CMBST; or CHOXD fb (BIODG or CARBN) | CMBST |
| K124 | Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts. | NA | NA | CMBST; or CHOXD fb (BIODG or CARBN) | CMBST |
| K125 | Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts. | NA | NA | CMBST; or CHOXD fb (BIODG or CARBN) | CMBST |
| K126 | Baghouse dust and floor sweepings in milling and packaging | NA | NA | CMBST; or CHOXD fb (BIODG or | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts. | | | CARBN) | |
| K131 | Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide. | Methyl bromide (Bromomethane) | 74-83-9 | 0.11 | 15 |
| K132 | Spent absorbent and wastewater separator solids from the production of methyl bromide. | Methyl bromide (Bromomethane) | 74-83-9 | 0.11 | 15 |
| K136 | Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. | Methyl bromide (Bromomethane) | 74-83-9 | 0.11 | 15 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Ethylene dibromide (1,2-Dibromoethane) | 106-93-4 | 0.028 | 15 |
| K141 | Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke or the recovery of | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-2-8 | 0.061 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from | 205-99-2 | 0.11 | 6.8 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludge from coking operations). | benzo(k)fluoranthene) | | | |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| | | | | | |
| K142 | Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| K143 | Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| K144 | Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | | | | |
| K145 | Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| K147 | Tar storage tank residues from coal tar refining. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to | 207-08-9 | 0.11 | 6.8 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | distinguish from benzo(b)fluoranthene) | | | |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| K148 | Residues from coal tar distillation, including, but not limited to, still bottoms. | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| | | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |
| | | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| K149 | Distillation bottoms | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillations of benzyl chloride.) | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Chloromethane | 74-87-3 | 0.19 | 30 |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| | | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| K150 | Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Chloromethane | 74-87-3 | 0.19 | 30 |
| | | p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| | | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| | | 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.057 | 6.0 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| K151 | Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. | Benzene | 71-43-2 | 0.14 | 10 |
| | | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| | | Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| | | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| | | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| K156 | Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.). ¹⁰ | Acetonitrile | 75-05-8 | 5.6 | 1.8 |
| | | Acetophenone | 98-86-2 | 0.010 | 9.7 |
| | | Aniline | 62-53-3 | 0.81 | 14 |
| | | Benomyl | 17804-35-2 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Carbaryl | 63-25-2 | 0.006; or CMBST, CHOXD, BIODG, or CARBN | 0.14 ; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Carbenzadim | 10605-21-7 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Carbofuran | 1563-66-2 | 0.006; or CMBST, CHOXD, BIODG, or CARBN | 0.14 ; or CMBST |
| | | Carbosulfan | 55285-14-8 | 0.028; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| | | Methomyl | 16752-77-5 | 0.028; or CMBST, CHOXD, BIODG, or CARBN | 0.14 ; or CMBST |
| | | Methylene chloride | 75-09-2 | 0.089 | 30 |
| | | Methyl ethyl ketone | 78-93-3 | 0.28 | 36 |
| | | Naphthalene | 91-20-3 | 0.059 | 5.6 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| | | Pyridine | 110-86-1 | 0.014 | 16 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Triethylamine | 121-44-8 | 0.081; or CMBST, CHOXD, BIODG, or CARBN | 1.5 ; or CMBST |
| K157 | Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) ¹⁰ | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Chloromethane | 74-87-3 | 0.19 | 30 |
| | | Methomyl | 16752-77-5 | 0.028; or CMBST, CHOXD, BIODG, or CARBN | 0.14 ; or CMBST |
| | | Methylene chloride | 75-09-2 | 0.089 | 30 |
| | | Methyl ethyl ketone | 78-93-3 | 0.28 | 36 |
| | | Pyridine | 110-86-1 | 0.014 | 16 |
| | | Triethylamine | 121-44-8 | 0.081; or CMBST, CHOXD, BIODG, or CARBN | 1.5 ; or CMBST |
| K158 | Bag house dusts and | Benomyl | 17804- | 0.056; or | 1.4 ; or |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) ¹⁰ | | 35-2 | CMBST, CHOXD, BIODG, or CARBN | CMBST |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Carbenzadim | 10605-21-7 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Carbofuran | 1563-66-2 | 0.006; or CMBST, CHOXD, BIODG, or CARBN | 0.14 ; or CMBST |
| | | Carbosulfan | 55285-14-8 | 0.028; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Chloroform | 67-66-3 | 0.046 | 6.0 |
| | | Methylene chloride | 75-09-2 | 0.089 | 30 |
| | | Phenol | 108-95-2 | 0.039 | 6.2 |
| K159 | Organics from the treatment of thiocarbamate wastes. ¹⁰ | Benzene | 71-43-2 | 0.14 | 10 |
| | | Butylate | 2008-41-5 | 0.042; or CMBST, CHOXD, BIODG, or | 1.4 ; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | CARBN | |
| | | EPTC (Eptam) | 759-94-4 | 0.042; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Molinate | 2212-67-1 | 0.042; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Pebulate | 1114-71-2 | 0.042; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| | | Vernolate | 1929-77-7 | 0.042; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| K161 | Purification solids (including filtration, evaporation, and centrifugation solids), baghouse dust and floor sweepings from the production of dithiocarbamate acids | Antimony | 7440-36-0 | 1.9 | 1.15 mg/L TCLP |
| | | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| | | Carbon disulfide | 75-15-0 | 3.8 | 4.8 mg/L TCLP |
| | | Dithiocarbamates | 137-30-4 | 0.028; or | 28 ; or |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | and their salts. ¹⁰ | (total) ¹⁰ | | CMBST, CHOXD, BIODG, or CARBN | CMBST |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| | | Selenium | 7782-49-2 | 0.82 | 5.7 mg/L TCLP |
| K169 | Crude oil tank sediment from petroleum refining operations | Bez(a) anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(g,h,i)anthracene | 191-24-2 | 0.0055 | 1.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Ethyl benzene | 100-41-4 | 0.057 | 10 |
| | | Fluorene | 86-73-7 | 0.059 | 3.4 |
| | | Napthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 81-05-8 | 0.059 | 5.6 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene (methyl benzene) | 108-88-3 | 0.080 | 10 |
| K170 | Clarified slurry oil sediment from petroleum refining operations | Xylene(s) (Total) | 1330-20-7 | 0.32 | 30 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Benzo(g,h,i)perylene | 191-24-2 | 0.0055 | 1.8 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |
| | | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| | | Ethyl benzene | 100-41-4 | 0.057 | 10 |
| | | Fluorene | 86-73-7 | 0.059 | 3.4 |
| | | Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| | | Napthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 81-05-8 | 0.059 | 5.6 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene (methyl benzene) | 108-88.3 | 0.080 | 10 |
| K171 | Spent hydrotreating catalyst from petroleum refining operations, including | Xylene(s) (Total) | 1330-20-70 | 0.32 | 30 |
| | | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| | | Benzene | 71-43-2 | 0.14 | 10 |
| | | Chrysene | 218-01-9 | 0.059 | 3.4 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media). | Ethyl benzene | 100-41-1 | 0.057 | 10 |
| | | Napthalene | 91-20-3 | 0.059 | 5.6 |
| | | Phenanthrene | 81-05-8 | 0.059 | 5.6 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene (methyl benzene) | 108-88-3 | 0.080 | 10 |
| | | Xylene(s) (Total) | 1330-20-7 | 0.32 | 30 |
| | | Arsenic | 7740-38-2 | 1.4 | 5 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11.0 mg/L TCLP |
| | | Vanadium | 7440-62-2 | 4.3 | 1.6 mg/L TCLP |
| | | Reactive sulfides | N/A | DEACT | DEACT |
| K172 | Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media). | Benzene | 71-43-2 | 0.14 | 10 |
| | | Ethyl benzene | 100-41-1 | 0.057 | 10 |
| | | Toluene (methyl benzene) | 108-88-3 | 0.080 | 10 |
| | | Xylenes(s) (Total) | 1330-20-7 | 0.32 | 30 |
| | | Antimony | 7740-36-0 | 1.9 | 1.15 mg/L TCLP |
| | | Arsenic | 7740-38-2 | 1.4 | 5 mg/L TCLP |
| | | Nickel | 7440-02-0 | 3.98 | 11.0 mg/L TCLP |
| | | Vanadium | 7440-62-2 | 4.3 | 1.6 mg/L TCLP |
| | | Reactive sulfide | N/A | DEACT | DEACT |
| | | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD) | 35822-46-9 | 0.000035 ¹¹ or CMBST ¹¹ | 0.0025 of ¹¹ CMBST ¹¹ |
| K174 | Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF) | 67562-39-4 | 0.000035 ¹¹ or CMBST ¹¹ | 0.0025 of ¹¹ CMBST ¹¹ |
| | | 1,2,3,4,7,8,9-Heptachlorodibenzo-p-furan (1,2,3,4,7,8,9-HpCDF) | 55673-89-7 | 0.000035 ¹¹ or CMBST ¹¹ | 0.0025 of ¹¹ CMBST ¹¹ |
| | | HxCDDs (all Hexachlorodibenzo-p-dioxins) | 34465-46-8 | 0.000035 ¹¹ or CMBST ¹¹ | 0.0025 of ¹¹ CMBST ¹¹ |
| | | HxCDFs (all Hexachlorodibenzofurans) | 55684-94-1 | 0.000063 ¹¹ or CMBST ¹¹ | 0.001 of ¹¹ CMBST ¹¹ |
| | | 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 3268-87-9 | 0.000063 ¹¹ or CMBST ¹¹ | 0.001 of ¹¹ CMBST ¹¹ |
| | | 1,2,3,4,6,7,8,9-Octachlorodibenzofuran | 39001-02-0 | 0.000063 ¹¹ or CMBST ¹¹ | 0.005 of ¹¹ CMBST ¹¹ |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | ran (OCDF) | | | |
| | | PeCDDs (all pentachlorodibenzo-p-dioxins) | 36008-22-9 | 0.000063 ¹¹ or CMBST | 0.005 ¹¹ or CMBST |
| | | PeCDFs (all pentachlorodibenzofurans) | 30402-15-4 | 0.000063 ¹¹ or CMBST | 0.001 ¹¹ or CMBST |
| | | TCDDs (all tetrachlorodibenzo-p-dioxins) | 41903-57-5 | 0.000035 ¹¹ or CMBST | 0.001 ¹¹ or CMBST |
| | | TCDFs (all tetrachlorodibenzofurans) | 55722-27-5 | 0.000063 ¹¹ or CMBST | 0.001 ¹¹ or CMBST |
| | | Arsenic | 7440-36-0 | 1.4 | 5.0 mg/L TCLP |
| K175 | Wastewater treatment sludge from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process. | Mercury | 7438-97-6 | NA | 0.025 mg/L TCLP |
| | | pH ¹² | | NA | pH ≤ 6.0 |
| | All K175 wastewaters | Mercury | 7438-97-6 | 0.15 | NA |
| K181 | Non-wastewaters from the production of dyes and/or pigments (including non-wastewaters commingled at the point of generation with non-wastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in paragraph (c) of § 261.32 that are equal to or greater than the corresponding | Aniline | 62-53-3 | 0.81 | 14 |
| | | O-Anisidine (2-methoxyaniline) | 90-04-0 | 0.010 | 0.66 |
| | | 4-Chloroaniline | 106-47-8 | 0.46 | |
| | | p- Cresidine | 120-71-8 | 0.010 | 0.66 |
| | | 2,4-Dimethylaniline (2,4-xylidine) | 95-68-1 | 0.010 | 0.66 |
| | | 1,2-Phenylene-diamine | 95-54-5 | CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN | CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN |
| | | 1,3-Phenylene-diamine | 108-45-2 | 0.010 | 0.66 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | paragraph (c) levels, as determined on a calendar year basis. | | | | |
| P001 | Warfarin, & salts, when present at concentrations greater than 0.3% | Warfarin | 81-81-2 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P002 | 1-Acetyl-2-thiourea | 1-Acetyl-2-thiourea | 591-08-2 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P003 | Acrolein | Acrolein | 107-02-8 | 0.29 | CMBST |
| P004 | Aldrin | Aldrin | 309-00-2 | 0.021 | 0.066 |
| P005 | Allyl alcohol | Allyl alcohol | 107-18-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P006 | Aluminum phosphide | Aluminum phosphide | 20859-73-8 | CHOXD; CHRED; or CMBST | CHOXD; CHRED; or CMBST |
| P007 | 5-Aminomethyl 3-isoxazolol | 5-Aminomethyl 3-isoxazolol | 2763-96-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P008 | 4-Aminopyridine | 4-Aminopyridine | 504-24-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P009 | Ammonium picrate | Ammonium picrate | 131-74-8 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| P010 | Arsenic acid | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| P011 | Arsenic pentoxide | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| P012 | Arsenic trioxide | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| P013 | Barium cyanide | Barium | 7440-39-3 | NA | 21 mg/L TCLP |
| | | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P014 | Thiophenol (Benzene thiol) | Thiophenol (Benzene thiol) | 108-98-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P015 | Beryllium dust | Beryllium | 7440-41-7 | RMETL; or RTHRM | RMETL; or RTHRM |
| P016 | Dichloromethyl ether (Bis(chloromethyl)ether) | Dichloromethyl ether | 542-88-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P017 | Bromoacetone | Bromoacetone | 598-31-2 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P018 | Brucine | Brucine | 357-57-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P020 | 2-sec-Butyl-4,6-dinitrophenol (Dinoseb) | 2-sec-Butyl-4,6-dinitrophenol (Dinoseb) | 88-85-7 | 0.066 | 2.5 |
| P021 | Calcium cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P022 | Carbon disulfide | Carbon disulfide | 75-15-0 | 3.8 | CMBST |
| | | Carbon disulfide; alternate ⁶ standard for non-wastewaters only | 75-15-0 | NA | 4.8 mg/L TCLP |
| P023 | Chloroacetaldehyde | Chloroacetaldehyde | 107-20-0 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P024 | p-Chloroaniline | p-Chloroaniline | 106-47-8 | 0.46 | 16 |
| P026 | 1-(o-Chlorophenyl)thiourea | 1-(o-Chlorophenyl)thiourea | 5344-82-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P027 | 3-Chloropropionitrile | 3-Chloropropionitrile | 542-76-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P028 | Benzyl chloride | Benzyl chloride | 100-44-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P029 | Copper cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P030 | Cyanides (soluble salts and complexes) | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P031 | Cyanogen | Cyanogen | 460-19-5 | CHOXD; WETOX; or CMBST | CHOXD; WETOX; or CMBST |
| P033 | Cyanogen chloride | Cyanogen chloride | 506-77-4 | CHOXD; WETOX; or CMBST | CHOXD; WETOX; or CMBST |
| P034 | 2-Cyclohexyl-4,6-dinitrophenol | 2-Cyclohexyl-4,6-dinitrophenol | 131-89-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P036 | Dichlorophenylarsine | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P037 | Dieldrin | Dieldrin | 60-57-1 | 0.017 | 0.13 |
| P038 | Diethylarsine | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| P039 | Disulfoton | Disulfoton | 298-04-4 | 0.017 | 6.2 |
| P040 | 0,0-Diethyl O-pyrazinyl phosphorothioate | 0,0-Diethyl O-pyrazinyl phosphorothioate | 297-97-2 | CARBON; or CMBST | CMBST |
| P041 | Diethyl-p-nitrophenyl phosphate | Diethyl-p-nitrophenyl phosphate | 311-45-5 | CARBON; or CMBST | CMBST |
| P042 | Epinephrine | Epinephrine | 51-43-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P043 | Diisopropylfluorophosphate (DFP) | Diisopropylfluorophosphate (DFP) | 55-91-4 | CARBON; or CMBST | CMBST |
| P044 | Dimethoate | Dimethoate | 60-51-5 | CARBON; or CMBST | CMBST |
| P045 | Thiofanox | Thiofanox | 39196-18-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P046 | alpha, alpha-Dimethylphenethylamine | alpha, alpha-Dimethylphenethylamine | 122-09-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P047 | 4,6-Dinitro-o-cresol | 4,6-Dinitro-o-cresol | 543-52-1 | 0.28 | 160 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | 4,6-Dinitro-o-cresol salts | NA | NA | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P048 | 2,4-Dinitrophenol | 2,4-Dinitrophenol | 51-28-5 | 0.12 | 160 |
| P049 | Dithiobiuret | Dithiobiuret | 541-53-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P050 | Endosulfan | Endosulfan I | 939-98-8 | 0.023 | 0.066 |
| | | Endosulfan II | 33213-6-5 | 0.029 | 0.13 |
| | | Endosulfan sulfate | 1031-07-8 | 0.029 | 0.13 |
| P051 | Endrin | Endrin | 72-20-8 | 0.0028 | 0.13 |
| | | Endrin aldehyde | 7421-93-4 | 0.025 | 0.13 |
| P054 | Aziridine | Aziridine | 151-56-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P056 | Fluorine | Fluoride (measured in wastewaters only) | 16964-48-8 | 35 | ADGAS fb NEUTR |
| P057 | Fluoroacetamide | Fluoroacetamide | 640-19-7 | (WETOX or CHOXD) fb CARBN; | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | or CMBST | |
| P058 | Fluoroacetic acid, sodium salt | Fluoroacetic acid, sodium salt | 62-74-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P059 | Heptachlor | Heptachlor | 76-44-8 | 0.0012 | 0.066 |
| | | Heptachlor epoxide | 1024-57-3 | 0.016 | 0.066 |
| P060 | Isodrin | Isodrin | 465-73-6 | 0.021 | 0.066 |
| P062 | Hexaethyl tetraphosphate | Hexaethyl tetraphosphate | 757-58-4 | CARBN; or CMBST | CMBST |
| P063 | Hydrogen cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P064 | Isocyanic acid, ethyl ester | Isocyanic acid, ethyl ester | 624-83-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P065 | Mercury fulminate non-wastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC. | Mercury | 7439-97-6 | NA | IMERC |
| | Mercury fulminate | Mercury | 7439-97- | NA | RMERC |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | non-wastewaters that are either incinerator residues or are residues from RMERC; and contain greater than or equal to 260 mg/kg total mercury. | | 6 | | |
| | Mercury fulminate non-wastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury. | Mercury | 7439-97-6 | NA | 0.20 mg/L TCLP |
| | Mercury fulminate non-wastewaters that are incinerator residues and contain less than 260 mg/kg total mercury. | Mercury | 7439-97-6 | NA | 0.025 mg/L TCLP |
| | All mercury fulminate wastewaters. | Mercury | 7439-97-6 | 0.15 | NA |
| P066 | Methomyl | Methomyl | 16752-77-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P067 | 2-Methyl-aziridine | 2-Methyl-aziridine | 75-55-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P068 | Methyl hydrazine | Methyl hydrazine | 60-34-4 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| P069 | 2-Methylactonitrile | 2-Methylactonitrile | 75-86-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P070 | Aldicarb | Aldicarb | 116-06-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P071 | Methyl parathion | Methyl parathion | 298-00-0 | 0.014 | 4.6 |
| P072 | 1-Naphthyl-2-thiourea | 1-Naphthyl-2-thiourea | 86-88-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P073 | Nickel carbonyl | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| P074 | Nickel cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Nickel | 7440-02-0 | 3.98 | 11 mg/L TCLP |
| P075 | Nicotine and salts | Nicotine and salts | 54-11-5 | (WETOX or CHOXD) fb CARBN; | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | or CMBST | |
| P076 | Nitric oxide | Nitric oxide | 10102-43-9 | ADGAS | ADGAS |
| P077 | p-Nitroaniline | p-Nitroaniline | 100-01-6 | 0.028 | 28 |
| P078 | Nitrogen dioxide | Nitrogen dioxide | 10102-44-0 | ADGAS | ADGAS |
| P081 | Nitroglycerin | Nitroglycerin | 55-63-0 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| P082 | N-Nitrosodimethylamine | N-Nitrosodimethylamine | 62-75-9 | 0.40 | 2.3 |
| P084 | N-Nitrosomethylvinylamine | N-Nitrosomethylvinylamine | 4549-40-0 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P085 | Octamethylpyrophosphoramidate | Octamethylpyrophosphoramidate | 152-16-9 | CARBN; or CMBST | CMBST |
| P087 | Osmium tetroxide | Osmium tetroxide | 20816-12-0 | RMETL; or RTHRM | RMETL; or RTHRM |
| P088 | Endothall | Endothall | 145-73-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P089 | Parathion | Parathion | 56-38-2 | 0.014 | 4.6 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P092 | Phenyl mercuric acetate non-wastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC. | Mercury | 7439-97-6 | NA | IMERC; or RMERC |
| | Phenyl mercuric acetate non-wastewaters that are either incinerator residues or are residues from RMERC; and still contain greater than or equal to 260 mg/kg total mercury. | Mercury | 7439-97-6 | NA | RMERC |
| | Phenyl mercuric acetate non-wastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury. | Mercury | 7439-97-6 | NA | 0.20 mg/L TCLP |
| | Phenyl mercuric acetate non-wastewaters that are incinerator residues and contain less than | Mercury | 7439-97-6 | NA | 0.025 mg/L TCLP |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | 260 mg/kg total mercury. | | | | |
| | All phenyl mercuric acetate wastewaters. | Mercury | 7439-97-6 | 0.15 | NA |
| P093 | Phenylthiourea | Phenylthiourea | 103-85-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P094 | Phorate | Phorate | 298-02-2 | 0.021 | 4.6 |
| P095 | Phosgene | Phosgene | 75-44-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P096 | Phosphine | Phosphine | 7803-51-2 | CHOXD; CHRED; or CMBST | CHOXD; CHRED; or CMBST |
| P097 | Famphur | Famphur | 52-85-7 | 0.017 | 15 |
| P098 | Potassium cyanide. | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P099 | Potassium silver cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Silver | 7440-22-4 | 0.43 | 0.14 mg/L TCLP |
| P101 | Ethyl cyanide | Ethyl cyanide | 107-12-0 | 0.24 | 360 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | (Propanenitrile) | (Propanenitrile) | | | |
| P102 | Propargyl alcohol | Propargyl alcohol | 107-19-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P103 | Selenourea | Selenium | 7782-49-2 | 0.82 | 5.7 mg/L TCLP |
| P104 | Silver cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| | | Silver | 7440-22-4 | 0.43 | 0.14 mg/L TCLP |
| P105 | Sodium azide | Sodium azide | 26628-22-8 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| P106 | Sodium cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P108 | Strychnine and salts | Strychnine and salts | 57-24-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P109 | Tetraethyldithiopyrophosphate | Tetraethyldithiopyrophosphate | 3689-24-5 | CARBN; or CMBST | CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P110 | Tetraethyl lead | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| P111 | Tetraethylpyrophosphate | Tetraethylpyrophosphate | 107-49-3 | CARBON; or CMBST | CMBST |
| P112 | Tetranitromethane | Tetranitromethane | 509-14-8 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| P113 | Thallic oxide | Thallium (measured in wastewaters only) | 7440-28-0 | 1.4 | RTHRM; or STABL |
| P114 | Thallium selenite | Selenium | 7782-49-2 | 0.82 | 5.7 mg/L TCLP |
| P115 | Thallium (I) sulfate | Thallium (measured in wastewaters only) | 7440-28-0 | 1.4 | RTHRM; or STABL |
| P116 | Thiosemicarbazide | Thiosemicarbazide | 79-19-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P118 | Trichloromethanethiol | Trichloromethanethiol | 75-70-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| P119 | Ammonium vanadate | Vanadium (measured in wastewaters only) | 7440-62-2 | 4.3 | STABL |
| P120 | Vanadium pentoxide | Vanadium (measured in wastewaters only) | 7440-62-2 | 4.3 | STABL |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|----------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P121 | Zinc cyanide | Cyanides (Total) ⁷ | 57-12-5 | 1.2 | 590 |
| | | Cyanides (Amenable) ⁷ | 57-12-5 | 0.86 | 30 |
| P122 | Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10% | Zinc Phosphide | 1314-84-7 | CHOXD; CHRED; or CMBST | CHOXD; CHRED; or CMBST |
| P123 | Toxaphene | Toxaphene | 8001-35-2 | 0.0095 | 2.6 |
| P127 | Carbofuran ¹⁰ | Carbofuran | 1563-66-2 | 0.006; or CMBST, CHOXD, BIODG, or CARBN | 0.14 ; or CMBST |
| P128 | Mexacarbate ¹⁰ | Mexacarbate | 315-18-4 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P185 | Tirpate ¹⁰ | Tirpate | 26419-73-8 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 0.28 ; or CMBST |
| P188 | Physostigmine salicylate ¹⁰ | Physostigmine salicylate | 57-64-7 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P189 | Carbosulfan ¹⁰ | Carbosulfan | 55285-14-8 | 0.028; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P190 | Metolcarb ¹⁰ | Metolcarb | 1129-41-5 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P191 | Dimetilan ¹⁰ | Dimetilan | 644-64-4 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P192 | Isolan ¹⁰ | Isolan | 119-38-0 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P194 | Oxamyl ¹⁰ | Oxamyl | 23135-22-0 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 0.028 ; or CMBST |
| P196 | Manganese dimethyldithiocarbamate ¹⁰ | Dithiocarbamates (total) | NA | 0.028; or CMBST, CHOXD, BIODG, or CARBN | 0.28 ; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P197 | Formparanate ¹⁰ | Formparanate | 17702-57-7 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P198 | Formetanate hydrochloride ¹⁰ | Formetanate hydrochloride | 23422-53-9 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P199 | Methiocarb ¹⁰ | Methiocarb | 2032-65-7 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P201 | Promecarb ¹⁰ | Promecarb | 2631-37-0 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P202 | m-Cumenyl methylcarbamate ¹⁰ | m-Cumenyl methylcarbamate | 64-00-6 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P203 | Aldicarb sulfone ¹⁰ | Aldicarb sulfone | 1646-88-4 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 0.28 ; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| P204 | Physostigmine ¹⁰ | Physostigmine | 57-47-6 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| P205 | Ziram ¹⁰ | Dithiocarbamates (total) | NA | 0.028; or CMBST, CHOXD, BIODG, or CARBN | 28 ; or CMBST |
| U001 | Acetaldehyde | Acetaldehyde | 75-07-0 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U002 | Acetone | Acetone | 67-64-1 | 0.28 | 160 |
| U003 | Acetonitrile | Acetonitrile | 75-05-8 | 5.6 | CMBST |
| | | Acetonitrile; alternate ⁶ standard for non-wastewaters only | 75-05-8 | NA | 38 |
| U004 | Acetophenone | Acetophenone | 98-86-2 | 0.010 | 9.7 |
| U005 | 2-Acetylaminofluorene | 2-Acetylaminofluorene | 53-96-3 | 0.059 | 140 |
| U006 | Acetyl chloride | Acetyl Chloride | 75-36-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U007 | Acrylamide | Acrylamide | 79-06-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U008 | Acrylic acid | Acrylic acid | 79-10-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U009 | Acrylonitrile | Acrylonitrile | 107-13-1 | 0.24 | 84 |
| U010 | Mitomycin C | Mitomycin C | 50-07-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U011 | Amitrole | Amitrole | 61-82-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U012 | Aniline | Aniline | 62-53-3 | 0.81 | 14 |
| U014 | Auramine | Auramine | 492-80-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U015 | Azaserine | Azaserine | 115-02-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U016 | Benz(c)acridine | Benz(c)acridine | 225-51-4 | (WETOX or CHOXD) | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | fb CARBN; or CMBST | |
| U017 | Benzal chloride | Benzal chloride | 98-87-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U018 | Benz(a)anthracene | Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| U019 | Benzene | Benzene | 71-43-2 | 0.14 | 10 |
| U020 | Benzenesulfonyl chloride | Benzenesulfonyl chloride | 98-09-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U021 | Benzidine | Benzidine | 92-87-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U022 | Benzo(a)pyrene | Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| U023 | Benzotrichloride | Benzotrichloride | 98-07-7 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| U024 | bis(2-Chloroethoxy)methane | bis(2-Chloroethoxy)methane | 111-91-1 | 0.036 | 7.2 |
| U025 | bis(2-Chloroethyl)ether | bis(2-Chloroethyl)ether | 111-44-4 | 0.033 | 6.0 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U026 | Chlornaphazine | Chlornaphazine | 494-03-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U027 | bis(2-Chloroisopropyl)ether | bis(2-Chloroisopropyl)ether | 39638-32-9 | 0.055 | 7.2 |
| U028 | bis(2-Ethylhexyl) phthalate | bis(2-Ethylhexyl) phthalate | 117-81-7 | 0.28 | 28 |
| U029 | Methyl bromide (Bromomethane) | Methyl bromide (Bromomethane) | 74-83-9 | 0.11 | 15 |
| U030 | 4-Bromophenyl phenyl ether | 4-Bromophenyl phenyl ether | 101-55-3 | 0.055 | 15 |
| U031 | n-Butyl alcohol | n-Butyl alcohol | 71-36-3 | 5.6 | 2.6 |
| U032 | Calcium chromate | Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/L TCLP |
| U033 | Carbon oxyfluoride | Carbon oxyfluoride | 353-50-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U034 | Trichloroacetaldehyde (Chloral) | Trichloroacetaldehyde (Chloral) | 75-87-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U035 | Chlorambucil | Chlorambucil | 305-03-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U036 | Chlordane | Chlordane (alpha and gamma isomers) | 57-74-9 | 0.0033 | 0.26 |
| U037 | Chlorobenzene | Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| U038 | Chlorobenzilate | Chlorobenzilate | 510-15-6 | 0.10 | CMBST |
| U039 | p-Chloro-m-cresol | p-Chloro-m-cresol | 59-50-7 | 0.018 | 14 |
| U041 | Epichlorohydrin (1-Chloro-2,3-epoxypropane) | Epichlorohydrin (1-Chloro-2,3-epoxypropane) | 106-89-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U042 | 2-Chloroethyl vinyl ether | 2-Chloroethyl vinyl ether | 110-75-8 | 0.062 | CMBST |
| U043 | Vinyl chloride | Vinyl chloride | 75-01-4 | 0.27 | 6.0 |
| U044 | Chloroform | Chloroform | 67-66-3 | 0.046 | 6.0 |
| U045 | Chloromethane (Methyl chloride) | Chloromethane (Methyl chloride) | 74-87-3 | 0.19 | 30 |
| U046 | Chloromethyl methyl ether | Chloromethyl methyl ether | 107-30-2 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U047 | 2-Chloronaphthalene | 2-Chloronaphthalene | 91-58-7 | 0.055 | 5.6 |
| U048 | 2-Chlorophenol | 2-Chlorophenol | 95-57-8 | 0.044 | 5.7 |
| U049 | 4-Chloro-o-toluidine hydrochloride | 4-Chloro-o-toluidine hydrochloride | 3165-93-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U050 | Chrysene | Chrysene | 218-01-9 | 0.059 | 3.4 |
| U051 | Creosote | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| | | Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| | | Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| | | Pyrene | 129-00-0 | 0.067 | 8.2 |
| | | Toluene | 108-88-3 | 0.080 | 10 |
| | | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| | | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| U052 | Cresols (Cresylic acid) | o-Cresol | 95-48-7 | 0.11 | 5.6 |
| | | m-Cresol (difficult to distinguish from p-cresol) | 108-39-4 | 0.77 | 5.6 |
| | | p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 | 5.6 |
| | | Cresol-mixed isomers (Cresylic acid) | 1319-77-3 | 0.88 | 11.2 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | (sum of o-, m-, and p-cresol concentrations) | | | |
| U053 | Crotonaldehyde | Crotonaldehyde | 4170-30-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U055 | Cumene | Cumene | 98-82-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U056 | Cyclohexane | Cyclohexane | 110-82-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U057 | Cyclohexanone | Cyclohexanone | 108-94-1 | 0.36 | CMBST |
| | | Cyclohexanone; alternate ⁶ standard for non-wastewaters only | 108-94-1 | NA | 0.75 mg/L TCLP |
| U058 | Cyclophosphamide | Cyclophosphamide | 50-18-0 | CARBN; or CMBST | CMBST |
| U059 | Daunomycin | Daunomycin | 20830-81-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U060 | DDD | o,p'-DDD | 53-19-0 | 0.023 | 0.087 |
| | | p,p'-DDD | 72-54-8 | 0.023 | 0.087 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U061 | DDT | o,p'-DDT | 789-02-6 | 0.0039 | 0.087 |
| | | p,p'-DDT | 50-29-3 | 0.0039 | 0.087 |
| | | o,p'-DDD | 53-19-0 | 0.023 | 0.087 |
| | | p,p'-DDD | 72-54-8 | 0.023 | 0.087 |
| | | o,p'-DDE | 3424-82-6 | 0.031 | 0.087 |
| | | p,p'-DDE | 72-55-9 | 0.031 | 0.087 |
| U062 | Diallate | Diallate | 2303-16-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U063 | Dibenz(a,h)anthracene | Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| U064 | Dibenz(a,i)pyrene | Dibenz(a,i)pyrene | 189-55-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U066 | 1,2-Dibromo-3-chloropropane | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.11 | 15 |
| U067 | Ethylene dibromide (1,2-Dibromoethane) | Ethylene dibromide (1,2-Dibromoethane) | 106-93-4 | 0.028 | 15 |
| U068 | Dibromomethane | Dibromomethane | 74-95-3 | 0.11 | 15 |
| U069 | Di-n-butyl phthalate | Di-n-butyl phthalate | 84-74-2 | 0.057 | 28 |
| U070 | o-Dichlorobenzene | o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U071 | m-Dichlorobenzene | m-Dichlorobenzene | 541-73-1 | 0.036 | 6.0 |
| U072 | p-Dichlorobenzene | p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| U073 | 3,3'-Dichlorobenzidine | 3,3'-Dichlorobenzidine | 91-94-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U074 | 1,4-Dichloro-2-butene | cis-1,4-Dichloro-2-butene | 1476-11-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | trans-1,4-Dichloro-2-butene | 764-41-0 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U075 | Dichlorodifluoromethane | Dichlorodifluoromethane | 75-71-8 | 0.23 | 7.2 |
| U076 | 1,1-Dichloroethane | 1,1-Dichloroethane | 75-34-3 | 0.059 | 6.0 |
| U077 | 1,2-Dichloroethane | 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| U078 | 1,1-Dichloroethylene | 1,1-Dichloroethylene | 75-35-4 | 0.025 | 6.0 |
| U079 | 1,2-Dichloroethylene | trans-1,2-Dichloroethylene | 156-60-5 | 0.054 | 30 |
| U080 | Methylene chloride | Methylene chloride | 75-09-2 | 0.089 | 30 |
| U081 | 2,4-Dichlorophenol | 2,4-Dichlorophenol | 120-83-2 | 0.044 | 14 |
| U082 | 2,6-Dichlorophenol | 2,6-Dichlorophenol | 87-65-0 | 0.044 | 14 |
| U083 | 1,2-Dichloropropane | 1,2-Dichloropropane | 78-87-5 | 0.85 | 18 |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|-------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U084 | 1,3-Dichloropropylene | cis-1,3-Dichloropropylene | 10061-01-5 | 0.036 | 18 |
| | | trans-1,3-Dichloropropylene | 10061-02-6 | 0.036 | 18 |
| U085 | 1,2:3,4-Diepoxybutane | 1,2:3,4-Diepoxybutane | 1464-53-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U086 | N,N'-Diethylhydrazine | N,N'-Diethylhydrazine | 1615-80-1 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| U087 | O,O-Diethyl S-methyldithiophosphate | O,O-Diethyl S-methyldithiophosphate | 3288-58-2 | CARBN; or CMBST | CMBST |
| U088 | Diethyl phthalate | Diethyl phthalate | 84-66-2 | 0.20 | 28 |
| U089 | Diethyl stilbestrol | Diethyl stilbestrol | 56-53-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U090 | Dihydrosafrole | Dihydrosafrole | 94-58-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U091 | 3,3'-Dimethoxybenzidine | 3,3'-Dimethoxybenzidine | 119-90-4 | (WETOX or CHOXD) fb CARBN; | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | or CMBST | |
| U092 | Dimethylamine | Dimethylamine | 124-40-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U093 | p-Dimethylaminoazobenzene | p-Dimethylaminoazobenzene | 60-11-7 | 0.13 | CMBST |
| U094 | 7,12-Dimethylbenz(a)anthracene | 7,12-Dimethylbenz(a)anthracene | 57-97-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U095 | 3,3'-Dimethylbenzidine | 3,3'-Dimethylbenzidine | 119-93-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U096 | alpha, alpha-Dimethyl benzyl hydroperoxide | alpha, alpha-Dimethyl benzyl hydroperoxide | 80-15-9 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| U097 | Dimethylcarbamoyl chloride | Dimethylcarbamoyl chloride | 79-44-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U098 | 1,1-Dimethylhydrazine | 1,1-Dimethylhydrazine | 57-14-7 | CHOXD; CHRED; CARBN; BIODG; or | CHOXD; CHRED; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|-------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | CMBST | |
| U099 | 1,2-Dimethylhydrazine | 1,2-Dimethylhydrazine | 540-73-8 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| U101 | 2,4-Dimethylphenol | 2,4-Dimethylphenol | 105-67-9 | 0.036 | 14 |
| U102 | Dimethyl phthalate | Dimethyl phthalate | 131-11-3 | 0.047 | 28 |
| U103 | Dimethyl sulfate | Dimethyl sulfate | 77-78-1 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| U105 | 2,4-Dinitrotoluene | 2,4-Dinitrotoluene | 121-14-2 | 0.32 | 140 |
| U106 | 2,6-Dinitrotoluene | 2,6-Dinitrotoluene | 606-20-2 | 0.55 | 28 |
| U107 | Di-n-octyl phthalate | Di-n-octyl phthalate | 117-84-0 | 0.017 | 28 |
| U108 | 1,4-Dioxane | 1,4-Dioxane | 123-91-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | 1,4-Dioxane; alternate ⁶ | 123-91-1 | 12.0 | 170 |
| U109 | 1,2-Diphenylhydrazine | 1,2-Diphenylhydrazine | 122-66-7 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | 1,2-Diphenylhydrazine; alternate ⁶ standard for wastewaters only | 122-66-7 | 0.087 | NA |
| U110 | Dipropylamine | Dipropylamine | 142-84-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U111 | Di-n-propylnitrosamine | Di-n-propylnitrosamine | 621-64-7 | 0.40 | 14 |
| U112 | Ethyl acetate | Ethyl acetate | 141-78-6 | 0.34 | 33 |
| U113 | Ethyl acrylate | Ethyl acrylate | 140-88-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U114 | Ethylenebisdithiocarbamic acid salts and esters | Ethylenebisdithiocarbamic acid | 111-54-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U115 | Ethylene oxide | Ethylene oxide | 75-21-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CHOXD; or CMBST |
| | | Ethylene oxide; alternate ⁶ standard for wastewaters only | 75-21-8 | 0.12 | NA |
| U116 | Ethylene thiourea | Ethylene thiourea | 96-45-7 | (WETOX or CHOXD) | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | fb CARBN; or CMBST | |
| U117 | Ethyl ether | Ethyl ether | 60-29-7 | 0.12 | 160 |
| U118 | Ethyl methacrylate | Ethyl methacrylate | 97-63-2 | 0.14 | 160 |
| U119 | Ethyl methane sulfonate | Ethyl methane sulfonate | 62-50-0 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U120 | Fluoranthene | Fluoranthene | 206-44-0 | 0.068 | 3.4 |
| U121 | Trichloromonofluoro methane | Trichloromonofluoro methane | 75-69-4 | 0.020 | 30 |
| U122 | Formaldehyde | Formaldehyde | 50-00-0 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U123 | Formic acid | Formic acid | 64-18-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U124 | Furan | Furan | 110-00-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U125 | Furfural | Furfural | 98-01-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U126 | Glycidylaldehyde | Glycidylaldehyde | 765-34-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U127 | Hexachlorobenzene | Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| U128 | Hexachlorobutadiene | Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| U129 | Lindane | alpha-BHC | 319-84-6 | 0.00014 | 0.066 |
| | | beta-BHC | 319-85-7 | 0.00014 | 0.066 |
| | | delta-BHC | 319-86-8 | 0.023 | 0.066 |
| | | gamma-BHC (Lindane) | 58-89-9 | 0.0017 | 0.066 |
| U130 | Hexachlorocyclopentadiene | Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |
| U131 | Hexachloroethane | Hexachloroethane | 67-72-1 | 0.055 | 30 |
| U132 | Hexachlorophene | Hexachlorophene | 70-30-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U133 | Hydrazine | Hydrazine | 302-01-2 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| U134 | Hydrogen fluoride | Fluoride (measured in wastewaters only) | 7664-39-3 | 35 | ADGAS fb NEUTR; or NEUTR |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U135 | Hydrogen Sulfide | Hydrogen Sulfide | 7783-06-4 | CHOXD; CHRED, or CMBST | CHOXD; CHRED; or CMBST. |
| U136 | Cacodylic acid | Arsenic | 7440-38-2 | 1.4 | 5.0 mg/L TCLP |
| U137 | Indeno(1,2,3-cd)pyrene | Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.0055 | 3.4 |
| U138 | Iodomethane | Iodomethane | 74-88-4 | 0.19 | 65 |
| U140 | Isobutyl alcohol | Isobutyl alcohol | 78-83-1 | 5.6 | 170 |
| U141 | Isosafrole | Isosafrole | 120-58-1 | 0.081 | 2.6 |
| U142 | Kepone | Kepone | 143-50-8 | 0.0011 | 0.13 |
| U143 | Lasiocarpine | Lasiocarpine | 303-34-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U144 | Lead acetate | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| U145 | Lead phosphate | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| U146 | Lead subacetate | Lead | 7439-92-1 | 0.69 | 0.75 mg/L TCLP |
| U147 | Maleic anhydride | Maleic anhydride | 108-31-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U148 | Maleic hydrazide | Maleic hydrazide | 123-33-1 | (WETOX | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | or CHOXD) fb CARBN; or CMBST | |
| U149 | Malononitrile | Malononitrile | 109-77-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U150 | Melphalan | Melphalan | 148-82-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U151 | U151 (mercury) non-wastewaters that contain greater than or equal to 260 mg/kg total mercury. | Mercury | 7439-97-6 | NA | RMERC |
| | U151 (mercury) non-wastewaters that contain less than 260 mg/kg total mercury and that are residues from RMERC only. | Mercury | 7439-97-6 | NA | 0.20 mg/L TCLP |
| | U151 (mercury) non-wastewaters that contain less than 260 mg/kg total mercury and that are not residues from RMERC. | Mercury | 7439-97-6 | NA | 0.025 mg/L TCLP |
| | All U151 (mercury) | Mercury | 7439-97- | 0.15 | NA |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/ Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | wastewaters. | | 6 | | |
| | Elemental Mercury Contaminated with Radioactive Materials | Mercury | 7439-97-6 | NA | AMLGM |
| U152 | Methacrylonitrile | Methacrylonitrile | 126-98-7 | 0.24 | 84 |
| U153 | Methanethiol | Methanethiol | 74-93-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U154 | Methanol | Methanol | 67-56-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | Methanol; alternate ⁶ set of standards for both wastewaters and non-wastewaters | 67-56-1 | 5.6 | 0.75 mg/L TCLP |
| U155 | Methapyrilene | Methapyrilene | 91-80-5 | 0.081 | 1.5 |
| U156 | Methyl chlorocarbonate | Methyl chlorocarbonate | 79-22-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U157 | 3-Methylcholanthrene | 3-Methylcholanthrene | 56-49-5 | 0.0055 | 15 |
| U158 | 4,4'-Methylene bis(2-chloroaniline) | 4,4'-Methylene bis(2-chloroaniline) | 101-14-4 | 0.50 | 30 |
| U159 | Methyl ethyl ketone | Methyl ethyl ketone | 78-93-3 | 0.28 | 36 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U160 | Methyl ethyl ketone peroxide | Methyl ethyl ketone peroxide | 1338-23-4 | CHOXD; CHRED; CARBN; BIODG; or CMBST | CHOXD; CHRED; or CMBST |
| U161 | Methyl isobutyl ketone | Methyl isobutyl ketone | 108-10-1 | 0.14 | 33 |
| U162 | Methyl methacrylate | Methyl methacrylate | 80-62-6 | 0.14 | 160 |
| U163 | N-Methyl N'-nitro N-nitrosoguanidine | N-Methyl N'-nitro N-nitrosoguanidine | 70-25-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U164 | Methylthiouracil | Methylthiouracil | 56-04-2 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U165 | Naphthalene | Naphthalene | 91-20-3 | 0.059 | 5.6 |
| U166 | 1,4-Naphthoquinone | 1,4-Naphthoquinone | 130-15-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U167 | 1-Naphthylamine | 1-Naphthylamine | 134-32-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U168 | 2-Naphthylamine | 2-Naphthylamine | 91-59-8 | 0.52 | CMBST |
| U169 | Nitrobenzene | Nitrobenzene | 98-95-3 | 0.068 | 14 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U170 | p-Nitrophenol | p-Nitrophenol | 100-02-7 | 0.12 | 29 |
| U171 | 2-Nitropropane | 2-Nitropropane | 79-46-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U172 | N-Nitrosodi-n-butylamine | N-Nitrosodi-n-butylamine | 924-16-3 | 0.40 | 17 |
| U173 | N-Nitrosodiethanolamine | N-Nitrosodiethanolamine | 1116-54-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U174 | N-Nitrosodiethylamine | N-Nitrosodiethylamine | 55-18-5 | 0.40 | 28 |
| U176 | N-Nitroso-N-ethylurea | N-Nitroso-N-ethylurea | 759-73-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U177 | N-Nitroso-N-methylurea | N-Nitroso-N-methylurea | 684-93-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U178 | N-Nitroso-N-methylurethane | N-Nitroso-N-methylurethane | 615-53-2 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U179 | N-Nitrosopiperidine | N-Nitrosopiperidine | 100-75-4 | 0.013 | 35 |
| U180 | N-Nitrosopyrrolidine | N-Nitrosopyrrolidine | 930-55-2 | 0.013 | 35 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U181 | 5-Nitro-o-toluidine | 5-Nitro-o-toluidine | 99-55-8 | 0.32 | 28 |
| U182 | Paraldehyde | Paraldehyde | 123-63-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U183 | Pentachlorobenzene | Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| U184 | Pentachloroethane | Pentachloroethane | 76-01-7 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| | | Pentachloroethane; alternate ⁶ standards for both wastewaters and non-wastewaters | 76-01-7 | 0.055 | 6.0 |
| U185 | Pentachloronitrobenzene | Pentachloronitrobenzene | 82-68-8 | 0.055 | 4.8 |
| U186 | 1,3-Pentadiene | 1,3-Pentadiene | 504-60-9 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U187 | Phenacetin | Phenacetin | 62-44-2 | 0.081 | 16 |
| U188 | Phenol | Phenol | 108-95-2 | 0.039 | 6.2 |
| U189 | Phosphorus sulfide | Phosphorus sulfide | 1314-80-3 | CHOXD; CHRED; or CMBST | CHOXD; CHRED; or CMBST |
| U190 | Phthalic anhydride | Phthalic anhydride | 100-21-0 | 0.055 | 28 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | (measured as Phthalic acid or Terephthalic acid) | (measured as Phthalic acid or Terephthalic acid) | | | |
| | | Phthalic anhydride (measured as Phthalic acid or Terephthalic acid) | 85-44-9 | 0.055 | 28 |
| U191 | 2-Picoline | 2-Picoline | 109-06-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U192 | Pronamide | Pronamide | 23950-58-5 | 0.093 | 1.5 |
| U193 | 1,3-Propane sultone | 1,3-Propane sultone | 1120-71-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U194 | n-Propylamine | n-Propylamine | 107-10-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U196 | Pyridine | Pyridine | 110-86-1 | 0.014 | 16 |
| U197 | p-Benzoquinone | p-Benzoquinone | 106-51-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U200 | Reserpine | Reserpine | 50-55-5 | (WETOX or CHOXD) | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | fb CARBN; or CMBST | |
| U201 | Resorcinol | Resorcinol | 108-46-3 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U203 | Safrole | Safrole | 94-59-7 | 0.081 | 22 |
| U204 | Selenium dioxide | Selenium | 7782-49-2 | 0.82 | 5.7 mg/L TCLP |
| U205 | Selenium sulfide | Selenium | 7782-49-2 | 0.82 | 5.7 mg/L TCLP |
| U206 | Streptozotocin | Streptozotocin | 18883-66-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U207 | 1,2,4,5-Tetrachlorobenzene | 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| U208 | 1,1,1,2-Tetrachloroethane | 1,1,1,2-Tetrachloroethane | 630-20-6 | 0.057 | 6.0 |
| U209 | 1,1,2,2-Tetrachloroethane | 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.057 | 6.0 |
| U210 | Tetrachloroethylene | Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| U211 | Carbon tetrachloride | Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| U213 | Tetrahydrofuran | Tetrahydrofuran | 109-99-9 | (WETOX or CHOXD) fb CARBN; | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | or CMBST | |
| U214 | Thallium (I) acetate | Thallium (measured in wastewaters only) | 7440-28-0 | 1.4 | RTHRM; or STABL |
| U215 | Thallium (I) carbonate | Thallium (measured in wastewaters only) | 7440-28-0 | 1.4 | RTHRM; or STABL |
| U216 | Thallium (I) chloride | Thallium (measured in wastewaters only) | 7440-28-0 | 1.4 | RTHRM; or STABL |
| U217 | Thallium (I) nitrate | Thallium (measured in wastewaters only) | 7440-28-0 | 1.4 | RTHRM; or STABL |
| U218 | Thioacetamide | Thioacetamide | 62-55-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U219 | Thiourea | Thiourea | 62-56-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U220 | Toluene | Toluene | 108-88-3 | 0.080 | 10 |
| U221 | Toluenediamine | Toluenediamine | 25376-45-8 | CARBN; or CMBST | CMBST |
| U222 | o-Toluidine hydrochloride | o-Toluidine hydrochloride | 636-21-5 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U223 | Toluene diisocyanate | Toluene diisocyanate | 26471-62-5 | CARBN; or CMBST | CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|------------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U225 | Bromoform (Tribromomethane) | Bromoform (Tribromomethane) | 75-25-2 | 0.63 | 15 |
| U226 | 1,1,1-Trichloroethane | 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| U227 | 1,1,2-Trichloroethane | 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| U228 | Trichloroethylene | Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| U234 | 1,3,5-Trinitrobenzene | 1,3,5-Trinitrobenzene | 99-35-4 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U235 | tris-(2,3-Dibromopropyl)-phosphate | tris-(2,3-Dibromopropyl)-phosphate | 126-72-7 | 0.11 | 0.10 |
| U236 | Trypan Blue | Trypan Blue | 72-57-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U237 | Uracil mustard | Uracil mustard | 66-75-1 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U238 | Urethane (Ethyl carbamate) | Urethane (Ethyl carbamate) | 51-79-6 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U239 | Xylenes | Xylenes-mixed isomers (sum of o-, | 1330-20-7 | 0.32 | 30 |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|--|--|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | m-, and p-xylene concentrations) | | | |
| U240 | 2,4-D (2,4-Dichlorophenoxyacetic acid) | 2,4-D (2,4-Dichlorophenoxyacetic acid) | 94-75-7 | 0.72 | 10 |
| | 2,4-D (2,4-Dichlorophenoxyacetic acid) salts and esters | | NA | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U243 | Hexachloropropylene | Hexachloropropylene | 1888-71-7 | 0.035 | 30 |
| U244 | Thiram | Thiram | 137-26-8 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U246 | Cyanogen bromide | Cyanogen bromide | 506-68-3 | CHOXD; WETOX; or CMBST | CHOXD; WETOX; or CMBST |
| U247 | Methoxychlor | Methoxychlor | 72-43-5 | 0.25 | 0.18 |
| U248 | Warfarin, & salts, when present at concentrations of 0.3% or less | Warfarin | 81-81-2 | (WETOX or CHOXD) fb CARBN; or CMBST | CMBST |
| U249 | Zinc phosphide, Zn ₃ P ₂ , when present at concentrations of 10% or less | Zinc Phosphide | 1314-84-7 | CHOXD; CHRED; or CMBST | CHOXD; CHRED; or CMBST |
| | | | | | |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| U271 | Benomyl ¹⁰ | Benomyl | 17804-35-2 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U278 | Bendiocarb ¹⁰ | Bendiocarb | 22781-23-3 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U279 | Carbaryl ¹⁰ | Carbaryl | 63-25-2 | 0.006; or CMBST, CHOXD, BIODG, or CARBN | 0.14 ; or CMBST |
| U280 | Barban ¹⁰ | Barban | 101-27-9 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U328 | o-Toluidine | o-Toluidine | 95-53-4 | CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN. | CMBST |
| U353 | p-Toluidine | p-Toluidine | 106-49-0 | CMBST; or CHOXD fb (BIODG or CARBN); | CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | or BIODG fb CARBN | |
| U359 | 2-Ethoxyethanol | 2-Ethoxyethanol | 110-80-5 | CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN | CMBST |
| U364 | Bendiocarb phenol ¹⁰ | Bendiocarb phenol | 22961-82-6 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U367 | Carbofuran phenol ¹⁰ | Carbofuran phenol | 1563-38-8 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U372 | Carbendazim ¹⁰ | Carbendazim | 10605-21-7 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U373 | Propham ¹⁰ | Propham | 122-42-9 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U387 | Prosulfocarb ¹⁰ | Prosulfocarb | 52888-80-9 | 0.042; or CMBST, | 1.4 ; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | CHOXD, BIODG, or CARBN | |
| U389 | Triallate ¹⁰ | Triallate | 2303-17-5 | 0.042; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U394 | A2213 ¹⁰ | A2213 | 30558-43-1 | 0.042; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U395 | Diethylene glycol, dicarbamate ¹⁰ | Diethylene glycol, dicarbamate | 5952-26-1 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U404 | Triethylamine ¹⁰ | Triethylamine | 101-44-8 | 0.081; or CMBST, CHOXD, BIODG, or CARBN | 1.5 ; or CMBST |
| U409 | Thiophanate-methyl ¹⁰ | Thiophanate-methyl | 23564-05-8 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |
| U410 | Thiodicarb ¹⁰ | Thiodicarb | 59669-26-0 | 0.019; or CMBST, | 1.4 ; or CMBST |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|-------------|---|---------------------------------|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | | | CHOXD, BIODG, or CARBN | |
| U411 | Propoxur ¹⁰ | Propoxur | 114-26-1 | 0.056; or CMBST, CHOXD, BIODG, or CARBN | 1.4 ; or CMBST |

FOOTNOTES TO TREATMENT STANDARD TABLE 268.40

| | |
|---|--|
| 1 | The waste descriptions provided in this table do not replace waste descriptions in Section 261 of this rule. Descriptions of Treatment/Regulatory Subcategories are provided, as needed, to distinguish between applicability of different standards. |
| 2 | CAS means <i>Chemical Abstract Services</i> . When the waste code and/or regulated constituents are described as a combination of a chemical with its salts and/or esters, the CAS number is given for the parent compound only. |
| 3 | Concentration standards for wastewaters are expressed in mg/L and are based on analysis of composite samples. |
| 4 | All treatment standards expressed as a Technology Code or combination of Technology Codes are explained in detail in § 268.42 Table 1 - Technology Codes and Descriptions of Technology-Based Standards. |
| 5 | Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the non-wastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of Section 264, Subsection O or Section 265, Subsection O of this rule, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to provisions in § 268.40(d) of this rule. All concentration standards for non-wastewaters are based on analysis of grab samples. |
| 6 | Where an alternate treatment standard or set of alternate standards has been indicated, a facility may comply with this alternate standard, but only for the Treatment/Regulatory Subcategory or physical form (i.e., wastewater and/or non- |

§268.40 TABLE TTS – TREATMENT STANDARDS FOR HAZARDOUS WASTES

NOTE: NA means not applicable

| Waste Code | Waste Description & Treatment/Regulatory Subcategory ¹ | Regulated Hazardous Constituent | | Waste waters | Non-Waste waters |
|------------|---|---|-------------------------|---|--|
| | | Common Name | CAS ² Number | Concentration ³ in mg/L; or Technology Code ⁴ | Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴ |
| | | wastewater) specified for that alternate standard. | | | |
| 7 | | Both Cyanides (Total) and Cyanides (Amenable) for non-wastewaters are to be analyzed using Method 9010C or 9012B, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule, with a sample size of 10 grams and a distillation time of one hour and 15 minutes. | | | |
| 8 | | These wastes, when rendered nonhazardous and then subsequently managed in CWA, or CWA-equivalent systems, are not subject to treatment standards. (See §§ 268.1(c)(3) and (4)). | | | |
| 9 | | These wastes, when rendered nonhazardous and then subsequently injected in a Class I SDWA well, are not subject to treatment standards. (See 40 CFR 148.1(d)). | | | |
| 10 | | The treatment standard for this waste may be satisfied by either meeting the constituent concentrations in this table or by treating the waste by the specified technologies: combustion, as defined by the technology code CMBST at § 268.42 Table 1 of this Section, for non-wastewaters; and, biodegradation as defined by the technology code BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at § 268.42 Table 1 of this Section, for wastewaters. | | | |
| 11 | | For these wastes, the definition of CMBST is limited to: (1) combustion units operating under Section 266, (2) combustion units permitted under Section 264, Subsection O, or (3) combustion units operating under Section 265, Subsection O, which have obtained a determination of equivalent treatment under § 268.42 (b). | | | |
| 12 | | Disposal of K175 wastes that have complied with all applicable § 268.40 treatment standards must also be macroencapsulated in accordance with § 268.45 Table 1 unless the waste is placed in: (1) A Subtitle C monofill containing only K175 wastes that meet all applicable § 268.40 treatment standards; or (2) A dedicated Subtitle C landfill cell in which all other wastes being co-disposed are at pH≤6.0. | | | |

§ 268.41 Treatment standards expressed as concentrations in waste extract

For the requirements previously found in this section and for treatment standards in Table CCWE-

Constituent Concentrations in Waste Extracts, refer to § 268.40.

§ 268.42 Treatment standards expressed as specified technologies

Note: For the requirements previously found in this section in Table 2-Technology-Based Standards By RCRA Waste Code, and Table 3-Technology-Based Standards for Specific Radioactive Hazardous Mixed Waste, refer to § 268.40.

(a) The following wastes in the table in § 268.40 “Treatment Standards for Hazardous Wastes,” for which standards are expressed as a treatment method rather than a concentration level, must be treated using the technology or technologies specified in the table entitled “Technology Codes and Description of Technology-Based Standards” in this section.

(1) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm but less than 500 ppm must be incinerated in accordance with the technical requirements of 40 CFR 761.70 or burned in high efficiency boilers in accordance with the technical requirements of 40 CFR 761.60. Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 500 ppm must be incinerated in accordance with the technical requirements of 40 CFR 761.70. Thermal treatment under this section must also be in compliance with applicable rules in sections 264, 265, and 266.

(2) Nonliquid hazardous wastes containing halogenated organic compounds (HOCs) in total concentration greater than or equal to 1,000 mg/kg and liquid HOC-containing wastes that are prohibited under § 268.32(e)(1) of this section must be incinerated in accordance with the requirements of section 264, Subsection O, or section 265, Subsection O. These treatment standards do not apply where the waste is subject to a section 268, Subsection D, treatment standard for specific HOC (such as a hazardous waste chlorinated solvent for which a treatment standard is established under § 268.41(a)).

(3) A mixture consisting of wastewater, the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act, and de minimis losses of materials from manufacturing operations in which these materials are used as raw materials or are produced as products in the manufacturing process, and that meet the criteria of the D001 ignitable liquids containing greater than 10% total organic constituents (TOC) subcategory, is subject to the DEACT treatment standard described in Table 1 of this section. For purposes of this paragraph, de minimis losses include those from normal material handling operations (eg, spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks from process equipment, storage tanks, or containers; leaks from well-maintained pump packings and seals; sample purgings; and relief device discharges.

Table 1
Technology Codes and Description of Technology-Based Standards

| Technology Code | Description of technology-based standards |
|-----------------|---|
|-----------------|---|

| | |
|---------------|---|
| ADGAS: | Venting of compressed gases into an absorbing or reacting media (ie, solid or |
|---------------|---|

liquid)-venting can be accomplished through physical release utilizing valves/piping; physical penetration of the container; and/or penetration through detonation

AMLGM: Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semi-solid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air

BIODG: Biodegradation of organics or non-metallic inorganics (ie, degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (eg, Total Organic Carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues)

CARBN: Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, and/or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (eg, Total Organic Carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues) Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs

CHOXD: Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations of reagents: (1) Hypochlorite (eg bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permangantes; and/or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (eg, Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues) Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination

CHRED: Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts or sulfites, bisulfites, metabisulfites, and polyethylene glycols (eg, NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (eg, Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues) Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state

CMBST: High temperature organic destruction technologies, such as combustion in incinerators, boilers, or industrial furnaces operated in accordance with the applicable requirements of 40 CFR part 264, subpart O, or Section 265, subsection O, or Section 266, subsection H, and in other units operated in accordance with applicable technical operating requirements; and certain non-combustive technologies, such as the Catalytic Extraction Process

DEACT: Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity

FSUBS: Fuel substitution in units operated in accordance with applicable technical operating requirements

HLVIT: Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission

IMERC: Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of Section 264 subsection 0 and Section 265 subsection 0 All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (eg, High or Low Mercury Subcategories)

INCIN: Incineration in units operated in accordance with the technical operating requirements of Section 264 Subsection 0 and Section 265 Subsection 0

LLEXT: Liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extracted liquid waste) proportionately low in organics that must undergo further treatment as specified in the standard

MACRO: Macroencapsulation with surface coating materials such as polymeric organics (eg resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media Macroencapsulation specifically does not include any material that would be classified as a tank or container according to §260.10

NEUTR: Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewaters) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals

NLDBR: No land disposal based on recycling

PRECP: Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, fluorides, or phosphates The following reagents (or waste reagents) are typically used alone or in combination: (1) Lime (ie, containing oxides and/or hydroxides of calcium and/or magnesium); (2) caustic (ie, sodium and/or potassium hydroxides); (3) soda ash (ie, sodium carbonate); (4) sodium sulfide; (5) ferric sulfate or ferric chloride; (6) alum; or (7) sodium sulfate Additional flocculating, coagulation or similar reagents/processes that enhance sludge dewatering characteristics are not precluded from use

POLYM: Formation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 non-wastewaters which are chemical components in the manufacture of plastics

RBERY: Thermal recovery of Beryllium

RCGAS: Recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct reuse or resale; and use of the gas as a fuel source

RCORR: Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) Distillation (ie, thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; and/or (5) incineration for the recovery of acid-Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies

RLEAD: Thermal recovery of lead in secondary lead smelters

RMERC: Retorting or roasting in a thermal processing unit capable of volatilizing mercury

and subsequently condensing the volatilized mercury for recovery The retorting or roasting unit (or facility) must be subject to one or more of the following: (a) a National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of section 302 of the Clean Air Act) for mercury All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (eg, High or Low Mercury Subcategories)

RMETL: Recovery of metals or inorganics utilizing one or more of the following direct physical/removal technologies: (1) Ion exchange; (2) resin or solid (ie, zeolites) adsorption; (3) reverse osmosis; (4) chelation/solvent extraction; (5) freeze crystallization; (6) ultrafiltration and/or (7) simple precipitation (ie, crystallization) - Note: This does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies

RORGS: Recovery of organics utilizing one or more of the following technologies: (1) Distillation; (2) thin film evaporation; (3) steam stripping; (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extraction; (7) precipitation/crystallization (including freeze crystallization); or (8) chemical phase separation techniques (ie, addition of acids, bases, demulsifiers, or similar chemicals); - Note: this does not preclude the use of other physical phase separation techniques such as a decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies

RTHRM: Thermal recovery of metals or inorganics from nonwastewaters in units identified as industrial furnaces according to 26010 (1), (6), (7), (11), and (12) under the definition of “industrial furnaces”

RZINC: Resmelting in high temperature metal recovery units for the purpose of recovery of zinc

STABL: Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement; or (2) lime/pozzolans (eg, fly ash and cement kiln dust) - this does not preclude the addition of reagents (eg, iron salts, silicates, and clays) designed to enhance the set/cure time and/or compressive strength, or to overall reduce the leachability of the metal or inorganic

SSTRP: Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as temperature and pressure ranges, have been optimized, monitored, and maintained These operating parameters are dependent upon the design parameters of the unit, such as the number of separation stages and the internal column design, thus resulting in a condensed extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that must undergo further treatment as specified in the standard

WETOX: Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (eg, Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues)

WTRRX: Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic/ignitable levels of gases released during

the reaction

Note 1: When a combination of these technologies (ie, a treatment train) is specified as a single treatment standard, the order of application is specified in § 268.42, Table 2 by indicating the five letter technology code that must be applied first, then the designation “fb” (an abbreviation for “followed by”), then the five letter technology code for the technology that must be applied next, and so on

Note 2: When more than one technology (or treatment train) are specified as alternative treatment standards, the five letter technology codes (or the treatment trains) are separated by a semicolon (;) with the last technology preceded by the word “OR” This indicates that any one of these BDAT technologies or treatment trains can be used for compliance with the standard

(b) Any person may submit an application to the EPA Administrator demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achieved by methods specified in paragraphs (a), (c), and (d) of this section for wastes or specified in Table 1 of § 268.45 for hazardous debris. The applicant must submit information demonstrating that his treatment method is in compliance with federal, state, and local requirements and is protective of human health and the environment. On the basis of such information and any other available information, the Administrator may approve the use of the alternative treatment method if he finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in paragraphs (a), (c), and (d) of this section for wastes or in Table 1 of § 268.45 for hazardous debris. Any approval must be stated in writing and may contain such provisions and conditions as the Administrator deems appropriate. The person to whom such approval is issued must comply with all limitations contained in such a determination.

(c) As an alternative to the otherwise applicable Subsection D treatment standards, lab packs are eligible for land disposal provided the following requirements are met:

- (1) The lab packs comply with the applicable provisions of § 264.316 and § 265.316;
- (2) The lab pack does not contain any of the wastes listed in Appendix IV to Section 268;
- (3) The lab packs are incinerated in accordance with the requirements of Section 264, subsection O or Section 265, subsection O; and
- (4) Any incinerator residues from lab packs containing D004, D005, D006, D007, D008, D010, and D011 are treated in compliance with the applicable treatment standards specified for such wastes in Subsection D of this section.

(d) Radioactive hazardous mixed wastes are subject to the treatment standards in § 268.40. Where treatment standards are specified for radioactive mixed wastes in the Table of Treatment Standards, those treatment standards will govern. Where there is no specific treatment standard for radioactive mixed waste, the treatment standard for the hazardous waste (as designated by EPA waste code) applies. Hazardous debris containing radioactive waste is subject to the treatment standards specified in § 268.45.*

§ 268.43 Treatment standards expressed as waste concentrations

For the requirements previously found in this section and for treatment standards in Table CCW-Constituent Concentrations in Wastes, refer to § 268.40.

§ 268.44 Variance from a treatment standard

(a) Based on a petition filed by a generator or treater of hazardous waste, the Administrator may approve a variance from an applicable treatment standard if:

- (1) It is not physically possible to treat the waste to the level specified in the treatment

standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method; or

(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. To show that this is the case, the petitioner must either demonstrate that:

(i) Treatment to the specified level or by the specified method is technically inappropriate (for example, resulting in combustion of large amounts of mildly contaminated environmental media); or

(ii) For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(b) Each petition must be submitted in accordance with the procedures in § 260.20.

(c) Each petition must include the following statement signed by the petitioner or an authorized representative:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment”

(d) After receiving a petition for variance from a treatment standard, the Administrator may request any additional information or samples which he may require to evaluate the petition. Additional copies of the complete petition may be requested as needed to send to affected states and Regional Offices.

(e) The Administrator will give public notice in the Federal Register of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a variance from a treatment standard will be published in the Federal Register.

(f) A generator, treatment facility, or disposal facility that is managing a waste covered by a variance from the treatment standards must comply with the waste analysis requirements for restricted wastes found under § 268.7.

(g) During the petition review process, the applicant is required to comply with all restrictions on land disposal under this section once the effective date for the waste has been reached.

(h) Based on a petition filed by a generator or treater of hazardous waste, the EPA Administrator or his or her delegated representative may approve a site-specific variance from an applicable treatment standard if:

(1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method; or

(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such

treatment is technically possible. To show that this is the case, the petitioner must either demonstrate that:

- (i) Treatment to the specified level or by the specified method is technically inappropriate (for example, resulting in combustion of large amounts of mildly contaminated environmental media where the treatment standard is not based on combustion of such media); or
- (ii) For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(3) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are below (ie, lower than) the concentrations necessary to minimize short- and long-term threats to human health and the environment. Treatment variances approved under this paragraph must:

- (i) At a minimum, impose alternative land disposal restriction treatment using a reasonable maximum exposure scenario.
 - (A) For carcinogens, achieve constituent concentrations that result in the total excess risk to an individual exposed over a lifetime generally falling within a range from 10^{-4} to 10^{-6} ; and
 - (B) For constituents with non-carcinogenic effects, achieve constituent concentrations that an individual could be exposed to on a daily basis without appreciable risk of deleterious effect during a lifetime.
- (ii) Not consider post-land-disposal controls.

(4) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are below (ie, lower than) natural background concentrations at the site where the contaminated soil will be land disposed.

(5) Public notice and a reasonable opportunity for public comment must be provided before granting or denying a petition.

(i) Each application for a site-specific variance from a treatment standard must include the information in § 260.20(b)(1)-(4);

(j) After receiving an application for a site-specific variance from a treatment standard, the Assistant Administrator, or his delegated representative, may request any additional information or samples which may be required to evaluate the application.

(k) A generator, treatment facility, or disposal facility that is managing a waste covered by a site-specific variance from a treatment standard must comply with the waste analysis requirements for restricted wastes found under § 268.7.

(l) During the application review process, the applicant for a site-specific variance must comply with all restrictions on land disposal under this section once the effective date for the waste has been reached.

(m) For all variances, the petitioner must also demonstrate that compliance with any given treatment variance is sufficient to minimize threats to human health and the environment posed by land disposal of the waste. In evaluating this demonstration, EPA may take into account whether a treatment variance should be approved if the subject waste is to be used in a manner constituting disposal pursuant to §§ 266.20 through 266.23.

(n) [Reserved]

(o) The following facilities are excluded from the treatment standard under § 268.43(a), Table CCW, and are subject to the following constituent concentrations:

NONE LISTED

§ 268.45 Treatment standards for hazardous debris

(a) Treatment standards: Hazardous debris must be treated prior to land disposal as follows unless the Division or EPA determines under §261.3(f)(2) of this rule that the debris is no longer contaminated with hazardous waste or the debris is treated to the waste-specific treatment standard provided in this subsection for the waste contaminating the debris:

(1) General. Hazardous debris must be treated for each “contaminant subject to treatment” defined by paragraph (b) of this section using the technology or technologies identified in Table 1 of this section.

(2) Characteristic debris. Hazardous debris that exhibits the characteristic of ignitability, corrosivity, or reactivity identified under §§ 261.21, 261.22, and 261.23 of this chapter, respectively, must be deactivated by treatment using one of the technologies identified in Table 1 of this section.

(3) Mixtures of debris types. The treatment standards of Table 1 in this section must be achieved for each type of debris contained in a mixture of debris types. If an immobilization technology is used in a treatment train, it must be the last treatment technology used.

(4) Mixtures of contaminant types. Debris that is contaminated with two or more contaminants subject to treatment identified under paragraph (b) of this section must be treated for each contaminant using one or more treatment technologies identified in Table 1 of this section. If an immobilization technology is used in a treatment train, it must be the last treatment technology used.

(5) Waste PCBs. Hazardous debris that is also a waste PCB under 40 CFR Part 761 is subject to the requirements of either 40 CFR Part 761 or the requirements of this section, whichever are more stringent.

(b) Contaminants subject to treatment. Hazardous debris must be treated for each “contaminant subject to treatment.” The contaminants subject to treatment must be determined as follows:

(1) Toxicity characteristic debris. The contaminants subject to treatment for debris that exhibits the Toxicity Characteristic (TC) by § 261.24 of this chapter are those EP constituents for which the debris exhibits the TC toxicity characteristic.

(2) Debris contaminated with listed waste. The contaminants subject to treatment for debris that is contaminated with a prohibited listed hazardous waste are those constituents or wastes for which treatment standards are established for the waste under § 268.40.

(3) Cyanide-reactive debris. Hazardous debris that is reactive because of cyanide must be treated for cyanide.

(c) Conditioned exclusion of treated debris. Hazardous debris that has been treated using one of the specified extraction or destruction technologies in Table 1 of this section and that does not exhibit a characteristic of hazardous waste identified under Subsection C, section 261, of this chapter after treatment is not a hazardous waste and need not be managed in a subtitle C facility. Hazardous debris contaminated with a listed waste that is treated by an immobilization technology

specified in Table 1 is a hazardous waste and must be managed in a subtitle C facility.

(d) Treatment residuals-(1) General requirements. Except as provided by paragraphs (d)(2) and (d)(4) of this section:

(i) Residue from the treatment of hazardous debris must be separated from the treated debris using simple physical or mechanical means; and

(ii) Residue from the treatment of hazardous debris is subject to the waste-specific treatment standards provided by Subsection D of this section for the waste contaminating the debris.

(2) Nontoxic debris. Residue from the deactivation of ignitable, corrosive, or reactive characteristic hazardous debris (other than cyanide-reactive) that is not contaminated with a contaminant subject to treatment defined by paragraph (b) of this section, must be deactivated prior to land disposal and is not subject to the waste-specific treatment standards of Subsection D of this section.

Table 1. Alternative Treatment Standards for Hazardous Debris¹

| Technology description | Performance and/or design and operating standard | Contaminant restrictions² |
|---|--|---|
| A. Extraction Technologies | | |
| 1. Physical Extraction | | |
| a. Abrasive Blasting Removal of contaminated debris surface layers using water and/or air pressure to propel a solid media(e.g., steel shot, aluminum oxide grit, plastic beads). | Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface ³ Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface. ³ | All debris: None. |
| b. Scarification, Grinding, and Planing: Process utilizing striking piston heads, saws, or rotating grinding wheels such that contaminated debris surface layers are removed. | Same as above. | Same as above. |
| c. Spalling: Drilling or chipping holes at appropriate locations and depth in the contaminated debris surface and applying a tool which | Same as above. | Same as above. |

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| exerts a force on the sides of those holes such that the surface layer is removed. The surface layer removed remains hazardous debris subject to the debris treatment standards. | | |
| Technology description | Performance and/or design and operating standard | Contaminant restrictions² |
| d. Vibratory Finishing: Process utilizing scrubbing media, flushing fluid, and oscillating energy such that hazardous contaminants or contaminated debris surface layers are removed. ⁴ | Same as above. | Same as above. |
| e. High Pressure Steam and Water Sprays: Application of water or steam sprays of sufficient temperature, pressure, residence time, agitation, surfactants, and detergents to remove hazardous contaminants from debris surfaces or to remove contaminated debris surface layers. | Same as above. | Same as above. |
| 2. Chemical Extraction | | |
| a. Water Washing and Spraying: Application of water sprays or water baths of sufficient temperature, pressure, residence time, agitation, surfactants, acids, bases, and detergents to remove hazardous contaminants from debris surfaces and surface pores or to remove contaminated debris surface layers. | All Debris: Treatment to a clean debris surface ³ ; Brick, Cloth, Concrete, Paper, Pavement, Rock, Debris must be no more than 1.2 cm (1/2 inch) in one dimension (i.e., thickness limit, ⁵ except that this thickness limit may be waived under an “Equivalent Technology” approval under §268.42(b); ⁸ debris surfaces must be in contact with water | Brick, Cloth, Concrete, Wood: Paper, Pavement, Wood: Contaminant must be soluble to at least 5% by weight in water solution or by weight in emulsion; if debris is contaminated with a dioxin-listed waste, ⁶ an “Equivalent Technology” approval under §268.42(b) must be obtained. ⁸ |

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| | solution for at least 15 minutes. | |
| b. Liquid Phase Solvent Extraction: Removal of hazardous contaminant from debris surfaces and surface pores by applying a nonaqueous liquid or liquid solution which causes the hazardous contaminants to enter the liquid phase and be flushed away from the debris along with the liquid solution while using appropriate agitation, temperature, and residence time. | Same as above. | Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: same as above, except that contaminant must be soluble to at least 5% by weight in the solvent. |
| c. Vapor Phase Solvent Extraction: Application of an organic vapor using sufficient agitation, residence time, and temperature to cause hazardous contaminants on contaminated debris surfaces and surface pores to enter the vapor phase and be flushed away with the organic vapor. ⁴ | Same as above, except that brick, cloth, concrete, paper, pavement, rock and wood surfaces must be in contact with the organic vapor for at least 60 minutes. | Same as above. |
| 3. Thermal Extraction | | |
| a. High Temperature Metals Recovery: Application of sufficient heat, residence time, mixing, fluxing agents, and/or carbon in a smelting, melting, or refining furnace to separate metals from debris. | For refining furnaces, treated debris must be separated from treatment residuals using simple physical or mechanical means, ⁹ and, prior to further treatment, such residuals must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. | Debris contaminated with a dioxin listed waste: ⁵ Obtain an “Equivalent Technology” approval under §268.42(b). ⁸ |
| b. Thermal Desorption: Heating in an enclosed chamber under either oxidizing or nonoxidizing | All Debris: ⁵ Obtain an “Equivalent Technology” approval under §268.42(b); ⁸ treated debris must be | All Debris: Metals other than mercury. |

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| atmospheres at sufficient temperature and residence time to vaporize hazardous contaminants from contaminated surfaces and surface pores and to remove the contaminants from the heating chamber in a gaseous exhaust gas. ⁷ | separated from treatment residuals using simple physical or mechanical means, ⁹ and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 10 cm (4 inches) in one dimension (i.e., thickness limit), ⁵ except that this thickness limit may be waived under the “Equivalent Technology” approval. | |
| Technology description | Performance and/or design and operating standard | Contaminant restrictions² |
| B. Destruction Technologies: | | |
| 1. Biological Destruction (Biodegradation): Removal of hazardous contaminants from debris surfaces and surface pores in an aqueous solution and biodegradation of organic or nonmetallic inorganic compounds (i.e., inorganics that contain phosphorus, nitrogen, or sulfur) in units operated under either aerobic or anaerobic conditions. | All Debris: ⁵ Obtain an “Equivalent Technology” approval under §268.42(b); ⁸ treated debris must be separated from treatment residuals using simple physical or mechanical means, ⁹ and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1/2 inches) in one dimension (i.e., thickness limit), ⁵ except that this thickness limit may be waived under the “Equivalent | All Debris: Metal contaminants |

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| | Technology” approval. | |
| 2. Chemical Destruction | | |
| <p>a. Chemical Oxidation: Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combination of reagents –(1) hypochlorite (e.g., bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (Ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permanganates; and/or (9) other oxidizing reagents of equivalent destruction efficiency.⁴ Chemical oxidation specifically Wood: includes what is referred to as alkaline chlorination.</p> | <p>All Debris: ⁵ Obtain an “Equivalent Technology” approval under §268.42(b);⁸ treated debris must be separated from treatment residuals using simple physical or mechanical means,⁹ and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris.</p> <p>Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1/2 inches) in one dimension (i.e., thickness limit),⁵ except that this thickness limit may be waived under the “Equivalent Technology” approval.</p> | All Debris: Metal contaminants |
| <p>b. Chemical Reduction: Chemical reaction utilizing the following reducing reagents (or waste reagents) or combination of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts of sulfites, bisulfites, and metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or 5) other reducing reagents of equivalent efficiency.⁴</p> | Same as above. | Same as above. |
| 3. Thermal Destruction: Treatment in an incinerator | Treated debris must be separated from treatment | Brick, Concrete, Glass, Metal, Pavement, Rock: Metals other |

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| operating in accordance with Subpart O of Sections 264 or 265 of this chapter; a boiler or industrial furnace operating in accordance with Subsection H of §266 of this chapter, or Subsection P, §265 of this chapter, but excluding for purposes of these debris treatment standards Thermal Desorption units. | residuals using simple physical or mechanical means, ⁹ and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. | than mercury, except that there are no metal restrictions for vitrification. Debris contaminated with a dioxin listed waste: ⁵ Obtain an “Equivalent Technology” approval under §268.42(b), ⁸ except that this requirement does not apply to vitrification. |
| Technology description | Performance and/or design and operating standard | Contaminant restrictions² |
| C. Immobilization Technologies: | | |
| 1. Macroencapsulation: Application of surface coating materials such as polymeric organics (e.g., resins and plastics) or use of a jacket of inert debris & inorganic material to substantially reduce surface exposure to potential leaching media. | Encapsulating material must completely encapsulate debris and be resistant to degradation by the contaminants and material in which it may come into contact after placement (leachate, other waste, microbes). | None. |
| 2. Microencapsulation: Stabilization of the debris with the following reagents (or waste reagents) such that the leachability of the hazardous contaminants is reduced: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash | Leachability of the hazardous contaminants must be reduced. | None. |

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| and cement kiln dust). Reagents (e.g., iron salts, silicates, and clays) may be added to enhance the set/cure time and/or compressive strength, or to reduce the leachability of the hazardous constituents. ⁵ | | |
| 3. Sealing: Application of an appropriate material which adheres tightly to the debris surface to avoid exposure of the surface to potential leaching media. When necessary to effectively seal the surface, sealing entails pretreatment of the debris surface to remove foreign matter and to clean and roughen the surface. Sealing materials include epoxy, silicone, and urethane compounds, but paint may not be used as a sealant. | Sealing must avoid exposure of the debris surface to potential leaching media and sealant must be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes). | None. |
| <p>FOOTNOTE: 1Hazardous debris must be treated by either these standards or the waste-specific treatment standards for the waste contaminating the debris. The treatment standards must be met for each type of debris contained in a mixture of debris types, unless the debris is converted into treatment residue as a result of the treatment process. Debris treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.</p> <p>FOOTNOTE: 2Contaminant restriction means that the technology is not BDAT for that contaminant. If debris containing a restricted contaminant is treated by the technology, the contaminant must be subsequently treated by a technology for which it is not restricted in order to be land disposed (and excluded from Subtitle C rule).</p> <p>FOOTNOTE: 3"Clean debris surface" means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than 5% of each square inch of surface area.</p> <p>FOOTNOTE: 4Acids, solvents, and chemical reagents may react with some debris and contaminants to form hazardous compounds. For example, acid washing of cyanide-contaminated debris could result in the formation of hydrogen cyanide. Some acids may also react violently with some debris and contaminants, depending on the concentration of the acid and the type of debris and contaminants. Debris treaters should refer to the safety precautions specified in Material Safety Data Sheets for various acids to avoid applying an incompatible acid to a particular debris/contaminant combination. For example, concentrated sulfuric acid may react violently with certain organic compounds, such as acrylonitrile.</p> <p>FOOTNOTE: 5If reducing the particle size of debris to meet the treatment standards results in material that no longer meets the 60 mm minimum particle size limit for debris, such material is subject to the waste-specific treatment standards for the waste contaminating the material, unless the debris has been cleaned and separated from contaminated soil and waste prior to size reduction. At a minimum, simple physical or mechanical means must be</p> | | |

used to provide such cleaning and separation of nondebris materials to ensure that the debris surface is free of caked soil, waste, or other nondebris material.

FOOTNOTE: 6Dioxin-listed wastes are EPA Hazardous Waste numbers FO20, FO21, FO22, FO23, FO26, and FO27.

FOOTNOTE: 7Thermal desorption is distinguished from Thermal Destruction in that the primary purpose of Thermal Desorption is to volatilize contaminants and to remove them from the treatment chamber for subsequent destruction or other treatment.

FOOTNOTE: 8The demonstration “Equivalent Technology” under §268.42(b) must document that the technology treats contaminants subject to treatment to a level equivalent to that required by the performance and design and operating standards for other technologies in this table such that residual levels of hazardous contaminants will not pose a hazard to human health and the environment absent management controls.

FOOTNOTE: 9Any soil, waste, and other nondebris material that remains on the debris surface (or remains mixed with the debris) after treatment is considered a treatment residual that must be separated from the debris using, at a minimum, simple physical or mechanical means. Examples of simple physical or mechanical means are vibratory or trommel screening or water washing. The debris surface need not be cleaned to a “clean debris surface” as defined in note 3 when separating treated debris from residue; rather, the surface must be free of caked soil, waste, or other nondebris material. Treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.

(3) Cyanide-reactive debris. Residue from the treatment of debris that is reactive because of cyanide must meet the treatment standards for D003 in “Treatment Standards for Hazardous Wastes” at §268.40

(4) Ignitable nonwastewater residue. Ignitable nonwastewater residue containing equal to or greater than 10% total organic carbon is subject to the technology specified in the treatment standard for D001: Ignitable Liquids section.

(5) Residue from spalling. Layers of debris removed by spalling are hazardous debris that remain subject to the treatment standards of this section.

§ 268.46 Alternative treatment standards based on HTMR

For the treatment standards previously found in this section, refer to § 268.40

§ 268.47 [Reserved]

§ 268.48 Universal Treatment Standards

(a) Table UTS identifies the hazardous constituents, along with the nonwastewater and wastewater treatment standard levels, that are used to regulate most prohibited hazardous wastes with numerical limits. For determining compliance with treatment standards for underlying hazardous constituents as defined in § 2682(i), these treatment standards may not be exceeded. Compliance with these treatment standards is measured by an analysis of grab samples, unless otherwise noted in the following Table UTS.

§ 268.48 Table UTS – Universal Treatment Standards

TABLE UTS - UNIVERSAL TREATMENT STANDARDS

NOTE: NA means not applicable

| Regulated constituent common name | CAS ¹ number | Wastewater standard | Nonwastewater standard |
|--|----------------------------|---------------------------------------|---|
| | | Concentration ² in mg/l | Concentration ³ in mg/kg unless noted as “mg/l TCLP” |
| Organic Constituents | | | |
| Acenaphthylene | 208-96-8 | 0.059 | 3.4 |
| Acenaphthene | 83-32-9 | 0.059 | 3.4 |
| Acetone | 67-64-1 | 0.28 | 160 |
| Acetonitrile | 75-05-8 | 5.6 | 38 |
| Acetophenone | 96-86-2 | 0.010 | 9.7 |
| 2-Acetylaminofluorene | 53-96-3 | 0.059 | 140 |
| Acrolein | 107-02-8 | 0.29 | NA |
| Acrylamide | 79-06-1 | 19 | 23 |
| Acrylonitrile | 107-13-1 | 0.24 | 84 |
| Aldrin | 309-00-2 | 0.021 | 0.066 |
| 4-Aminobiphenyl | 92-67-1 | 0.13 | NA |
| Aniline | 62-53-3 | 0.81 | 14 |
| o-Anisidine (2-methoxyaniline) | 90-04-0 | 0.010 | 0.66 |
| Anthracene | 120-12-7 | 0.059 | 3.4 |
| Aramite | 140-57-8 | 0.36 | NA |
| alpha-BHC | 319-84-6 | 0.00014 | 0.066 |
| beta-BHC | 319-85-7 | 0.00014 | 0.066 |
| delta-BHC | 319-86-8 | 0.023 | 0.066 |
| gamma-BHC | 58-89-9 | 0.0017 | 0.066 |
| Benzene | 71-43-2 | 0.14 | 10 |
| Benz(a)anthracene | 56-55-3 | 0.059 | 3.4 |
| Benzal chloride | 98-87-3 | 0.055 | 6.0 |
| Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2 | 0.11 | 6.8 |

| | | | |
|---|------------|--------|---------------|
| Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9 | 0.11 | 6.8 |
| Benzo(g,h,i)perylene | 191-24-2 | 0.0055 | 1.8 |
| Benzo(a)pyrene | 50-32-8 | 0.061 | 3.4 |
| Bromodichloromethane | 75-27-4 | 0.35 | 15 |
| Bromomethane/Methyl bromide | 74-83-9 | 0.11 | 15 |
| 4-Bromophenyl phenyl ether | 101-55-3 | 0.055 | 15 |
| n-Butyl alcohol | 71-36-3 | 5.6 | 2.6 |
| Butyl benzyl phthalate | 85-68-7 | 0.017 | 28 |
| 2-sec-Butyl-4,6-dinitrophenol/Dinoseb | 88-85-7 | 0.066 | 2.5 |
| Carbon disulfide | 75-15-0 | 3.8 | 4.8 mg/l TCLP |
| Carbon tetrachloride | 56-23-5 | 0.057 | 6.0 |
| Chlordane (alpha and gamma isomers) | 57-74-9 | 0.0033 | 0.26 |
| p-Chloroaniline | 106-47-8 | 0.46 | 16 |
| Chlorobenzene | 108-90-7 | 0.057 | 6.0 |
| Chlorobenzilate | 510-15-6 | 0.10 | NA |
| 2-Chloro-1,3-butadiene | 126-99-8 | 0.057 | 0.28 |
| Chlorodibromomethane | 124-48-1 | 0.057 | 15 |
| Chloroethane | 75-00-3 | 0.27 | 6.0 |
| bis(2-Chloroethoxy)methane | 111-91-1 | 0.036 | 7.2 |
| bis(2-Chloroethyl)ether | 111-44-4 | 0.033 | 6.0 |
| Chloroform | 67-66-3 | 0.046 | 6.0 |
| bis(2-Chloroisopropyl)ether | 39638-32-9 | 0.055 | 7.2 |
| p-Chloro-m-cresol | 59-50-7 | 0.018 | 14 |
| 2-Chloroethyl vinyl ether | 110-75-8 | 0.062 | NA |
| Chloromethane/Methyl chloride | 74-87-3 | 0.19 | 30 |
| 2-Chloronaphthalene | 91-58-7 | 0.055 | 5.6 |
| 2-Chlorophenol | 95-57-8 | 0.044 | 5.7 |
| 3-Chloropropylene | 107-05-1 | 0.036 | 30 |
| Chrysene | 218-01-9 | 0.059 | 3.4 |

| | | | |
|---|-----------|--------|----------------|
| p-Cresidine | 120-71-8 | 0.010 | 0.66 |
| o-Cresol | 95-48-7 | 0.11 | 5.6 |
| m-Cresol (difficult to distinguish from p-cresol) | 108-39-4 | 0.77 | 5.6 |
| p-Cresol (difficult to distinguish from m-cresol) | 106-44-5 | 0.77 | 5.6 |
| Cyclohexanone | 108-94-1 | 0.36 | 0.75 mg/l TCLP |
| o,p'-DDD | 53-19-0 | 0.023 | 0.087 |
| p,p'-DDD | 72-54-8 | 0.023 | 0.087 |
| o,p'-DDE | 3424-82-6 | 0.031 | 0.087 |
| p,p'-DDE | 72-55-9 | 0.031 | 0.087 |
| o,p'-DDT | 789-02-6 | 0.0039 | 0.087 |
| p,p'-DDT | 50-29-3 | 0.0039 | 0.087 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.055 | 8.2 |
| Dibenz(a,e)pyrene | 192-65-4 | 0.061 | NA |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.11 | 15 |
| 1,2-Dibromoethane/Ethylene dibromide | 106-93-4 | 0.028 | 15 |
| Dibromomethane | 74-95-3 | 0.11 | 15 |
| m-Dichlorobenzene | 541-73-1 | 0.036 | 6.0 |
| o-Dichlorobenzene | 95-50-1 | 0.088 | 6.0 |
| p-Dichlorobenzene | 106-46-7 | 0.090 | 6.0 |
| Dichlorodifluoromethane | 75-71-8 | 0.23 | 7.2 |
| 1,1-Dichloroethane | 75-34-3 | 0.059 | 6.0 |
| 1,2-Dichloroethane | 107-06-2 | 0.21 | 6.0 |
| 1,1-Dichloroethylene | 75-35-4 | 0.025 | 6.0 |
| trans-1,2-Dichloroethylene | 156-60-5 | 0.054 | 30 |
| 2,4-Dichlorophenol | 120-83-2 | 0.044 | 14 |
| 2,6-Dichlorophenol | 87-65-0 | 0.044 | 14 |
| 2,4-Dichlorophenoxyacetic acid/2,4-D | 94-75-7 | 0.72 | 10 |
| 1,2-Dichloropropane | 78-87-5 | 0.85 | 18 |

| | | | |
|---|------------|--------|-------|
| cis-1,3-Dichloropropylene | 10061-01-5 | 0.036 | 18 |
| trans-1,3-Dichloropropylene | 10061-02-6 | 0.036 | 18 |
| Dieldrin | 60-57-1 | 0.017 | 0.13 |
| Diethyl phthalate | 84-66-2 | 0.20 | 28 |
| p-Dimethylaminoazobenzene | 60-11-7 | 0.13 | NA |
| 2,4-Dimethylaniline (2,4-xylydine) | 95-68-1 | 0.010 | 0.66 |
| 2,4-Dimethyl phenol | 105-67-9 | 0.036 | 14 |
| Dimethyl phthalate | 131-11-3 | 0.047 | 28 |
| Di-n-butyl phthalate | 84-74-2 | 0.057 | 28 |
| 1,4-Dinitrobenzene | 100-25-4 | 0.32 | 2.3 |
| 4,6-Dinitro-o-cresol | 534-52-1 | 0.28 | 160 |
| 2,4-Dinitrophenol | 51-28-5 | 0.12 | 160 |
| 2,4-Dinitrotoluene | 121-14-2 | 0.32 | 140 |
| 2,6-Dinitrotoluene | 606-20-2 | 0.55 | 28 |
| Di-n-octyl phthalate | 117-84-0 | 0.017 | 28 |
| Di-n-propylnitrosamine | 621-64-7 | 0.40 | 14 |
| 1,4-Dioxane | 123-91-1 | 12.0 | 170 |
| Diphenylamine (difficult to distinguish from diphenylnitrosamine) | 122-39-4 | 0.92 | 13 |
| Diphenylnitrosamine (difficult to distinguish from diphenylamine) | 86-30-6 | 0.92 | 13 |
| 1,2-Diphenylhydrazine | 122-66-7 | 0.087 | NA |
| Disulfoton | 298-04-4 | 0.017 | 6.2 |
| Endosulfan I | 959-98-8 | 0.023 | 0.066 |
| Endosulfan II | 33213-65-9 | 0.029 | 0.13 |
| Endosulfan sulfate | 1031-07-8 | 0.029 | 0.13 |
| Endrin | 72-20-8 | 0.0028 | 0.13 |
| Endrin aldehyde | 7421-93- | 0.025 | 0.13 |

| | | | |
|---|------------|----------|-------|
| | 4 | | |
| Ethyl acetate | 141-78-6 | 0.34 | 33 |
| Ethyl benzene | 100-41-4 | 0.057 | 10 |
| Ethyl cyanide/Propanenitrile | 107-12-0 | 0.24 | 360 |
| Ethyl ether | 60-29-7 | 0.12 | 160 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 0.28 | 28 |
| Ethyl methacrylate | 97-63-2 | 0.14 | 160 |
| Ethylene oxide | 75-21-8 | 0.12 | NA |
| Famphur | 52-85-7 | 0.017 | 15 |
| Fluoranthene | 206-44-0 | 0.068 | 3.4 |
| Fluorene | 86-73-7 | 0.059 | 3.4 |
| Heptachlor | 76-44-8 | 0.0012 | 0.066 |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD) | 35822-46-9 | 0.000035 | .0025 |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF) | 67562-39-4 | 0.000035 | .0025 |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF) | 55673-89-7 | 0.000035 | .0025 |
| Heptachlor epoxide | 1024-57-3 | 0.016 | 0.066 |
| Hexachlorobenzene | 118-74-1 | 0.055 | 10 |
| Hexachlorobutadiene | 87-68-3 | 0.055 | 5.6 |
| Hexachlorocyclopentadiene | 77-47-4 | 0.057 | 2.4 |
| HxCDDs (All Hexachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| HxCDFs (All Hexachlorodibenzofurans) | NA | 0.000063 | 0.001 |
| Hexachloroethane | 67-72-1 | 0.055 | 30 |
| Hexachloropropylene | 1888-71-7 | 0.035 | 30 |
| Indeno(1,2,3-c,d) pyrene | 193-39-5 | 0.0055 | 3.4 |
| Iodomethane | 74-88-4 | 0.19 | 65 |
| Isobutyl alcohol | 78-83-1 | 5.6 | 170 |

| | | | |
|------------------------------------|------------|--------|----------------|
| Isodrin | 465-73-6 | 0.021 | 0.066 |
| Isosafrole | 120-58-1 | 0.081 | 2.6 |
| Kepone | 143-50-0 | 0.0011 | 0.13 |
| Methacrylonitrile | 126-98-7 | 0.24 | 84 |
| Methanol | 67-56-1 | 5.6 | 0.75 mg/l TCLP |
| Methapyrilene | 91-80-5 | 0.081 | 1.5 |
| Methoxychlor | 72-43-5 | 0.25 | 0.18 |
| 3-Methylcholanthrene | 56-49-5 | 0.0055 | 15 |
| 4,4-Methylene bis(2-chloroaniline) | 101-14-4 | 0.50 | 30 |
| Methylene chloride | 75-09-2 | 0.089 | 30 |
| Methyl ethyl ketone | 78-93-3 | 0.28 | 36 |
| Methyl isobutyl ketone | 108-10-1 | 0.14 | 33 |
| Methyl methacrylate | 80-62-6 | 0.14 | 160 |
| Methyl methanesulfonate | 66-27-3 | 0.018 | NA |
| Methyl parathion | 298-00-0 | 0.014 | 4.6 |
| Naphthalene | 91-20-3 | 0.059 | 5.6 |
| 2-Naphthylamine | 91-59-8 | 0.52 | NA |
| o-Nitroaniline | 88-74-4 | 0.27 | 14 |
| p-Nitroaniline | 100-01-6 | 0.028 | 28 |
| Nitrobenzene | 98-95-3 | 0.068 | 14 |
| 5-Nitro-o-toluidine | 99-55-8 | 0.32 | 28 |
| o-Nitrophenol | 88-75-5 | 0.028 | 13 |
| p-Nitrophenol | 100-02-7 | 0.12 | 29 |
| N-Nitrosodiethylamine | 55-18-5 | 0.40 | 28 |
| N-Nitrosodimethylamine | 62-75-9 | 0.40 | 2.3 |
| N-Nitroso-di-n-butylamine | 924-16-3 | 0.40 | 17 |
| N-Nitrosomethylethylamine | 10595-95-6 | 0.40 | 2.3 |
| N-Nitrosomorpholine | 59-89-2 | 0.40 | 2.3 |
| N-Nitrosopiperidine | 100-75-4 | 0.013 | 35 |

| | | | |
|---|------------|----------|-------|
| N-Nitrosopyrrolidine | 930-55-2 | 0.013 | 35 |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 3268-87-9 | 0.000063 | 0.005 |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 39001-02-0 | 0.000063 | 0.005 |
| Parathion | 56-38-2 | 0.014 | 4.6 |
| Total PCBs (sum of all PCB isomers, or all Aroclors) ⁸ | 1336-36-3 | 0.10 | 10 |
| Pentachlorobenzene | 608-93-5 | 0.055 | 10 |
| PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| PeCDFs (All Pentachlorodibenzofurans) | NA | 0.000035 | 0.001 |
| Pentachloroethane | 76-01-7 | 0.055 | 6.0 |
| Pentachloronitrobenzene | 82-68-8 | 0.055 | 4.8 |
| Pentachlorophenol | 87-86-5 | 0.089 | 7.4 |
| Phenacetin | 62-44-2 | 0.081 | 16 |
| Phenanthrene | 85-01-8 | 0.059 | 5.6 |
| Phenol | 108-95-2 | 0.039 | 6.2 |
| 1,3-Phenylenediamine | 108-45-2 | 0.010 | 0.66 |
| Phorate | 298-02-2 | 0.021 | 4.6 |
| Phthalic acid | 100-21-0 | 0.055 | 28 |
| Phthalic anhydride | 85-44-9 | 0.055 | 28 |
| Pronamide | 23950-58-5 | 0.093 | 1.5 |
| Pyrene | 129-00-0 | 0.067 | 8.2 |
| Pyridine | 110-86-1 | 0.014 | 16 |
| Safrole | 94-59-7 | 0.081 | 22 |
| Silvex/2,4,5-TP | 93-72-1 | 0.72 | 7.9 |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 | 0.055 | 14 |
| TCDDs (All Tetrachlorodibenzo-p-dioxins) | NA | 0.000063 | 0.001 |
| TCDFs (All Tetrachlorodibenzofurans) | NA | 0.000063 | 0.001 |

| | | | |
|--|-----------|--------|----------------|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 0.057 | 6.0 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.057 | 6.0 |
| Tetrachloroethylene | 127-18-4 | 0.056 | 6.0 |
| 2,3,4,6-Tetrachlorophenol | 58-90-2 | 0.030 | 7.4 |
| Toluene | 108-88-3 | 0.080 | 10 |
| Toxaphene | 8001-35-2 | 0.0095 | 2.6 |
| Tribromomethane/Bromoform | 75-25-2 | 0.63 | 15 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.055 | 19 |
| 1,1,1-Trichloroethane | 71-55-6 | 0.054 | 6.0 |
| 1,1,2-Trichloroethane | 79-00-5 | 0.054 | 6.0 |
| Trichloroethylene | 79-01-6 | 0.054 | 6.0 |
| Trichlorofluoromethane | 75-69-4 | 0.020 | 30 |
| 2,4,5-Trichlorophenol | 95-95-4 | 0.18 | 7.4 |
| 2,4,6-Trichlorophenol | 88-06-2 | 0.035 | 7.4 |
| 2,4,5-Trichlorophenoxyacetic acid/2,4,5-T | 93-76-5 | 0.72 | 7.9 |
| 1,2,3-Trichloropropane | 96-18-4 | 0.85 | 30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 0.057 | 30 |
| tris-(2,3-Dibromopropyl) phosphate | 126-72-7 | 0.11 | 0.10 |
| Vinyl chloride | 75-01-4 | 0.27 | 6.0 |
| Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7 | 0.32 | 30 |
| Inorganic Constituents | | | |
| Antimony | 7440-36-0 | 1.9 | 1.15 mg/l TCLP |
| Arsenic | 7440-38-2 | 1.4 | 5.0 mg/l TCLP |
| Barium | 7440-39-3 | 1.2 | 21 mg/l TCLP |
| Beryllium | 7440-41-7 | 0.82 | 1.22 mg/l TCLP |

| | | | |
|-----------------------------------|------------|------|-----------------|
| Cadmium | 7440-43-9 | 0.69 | 0.11 mg/l TCLP |
| Chromium (Total) | 7440-47-3 | 2.77 | 0.60 mg/l TCLP |
| Cyanides (Total) ⁴ | 57-12-5 | 1.2 | 590 |
| Cyanides (Amenable) ⁴ | 57-12-5 | 0.86 | 30 |
| Fluoride ⁵ | 16984-48-8 | 35 | NA |
| Lead | 7439-92-1 | 0.69 | 0.75 mg/l TCLP |
| Mercury—Nonwastewater from Retort | 7439-97-6 | NA | 0.20 mg/l TCLP |
| Mercury—All Others | 7439-97-6 | 0.15 | 0.025 mg/l TCLP |
| Nickel | 7440-02-0 | 3.98 | 11 mg/l TCLP |
| Selenium ⁷ | 7782-49-2 | 0.82 | 5.7 mg/l TCLP |
| Silver | 7440-22-4 | 0.43 | 0.14 mg/l TCLP |
| Sulfide ⁵ | 18496-25-8 | 14 | NA |
| Thallium | 7440-28-0 | 1.4 | 0.20 mg/l TCLP |
| Vanadium ⁵ | 7440-62-2 | 4.3 | 1.6 mg/l TCLP |
| Zinc ⁵ | 7440-66-6 | 2.61 | 4.3 mg/l TCLP |

FOOTNOTES TO TABLE UTS

1. CAS means Chemical Abstract Services When the waste code and/or regulated constituents are described as a combination of a chemical with its salts and/or esters, the CAS number is given for the parent compound only

2. Concentration standards for wastewaters are expressed in mg/L and are based on analysis of composite samples

3. Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of Section 264, Subsection O or Section 265, Subsection O, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements A facility may comply with these treatment standards according to provisions in § 268.40(d) All concentration standards for nonwastewaters are based on analysis of grab samples

4. Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010C or 9012B, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes
5. These constituents are not "underlying hazardous constituents" in characteristic wastes, according to the definition at §268.2(i)
6. (Reserved)
7. This constituent is not an underlying hazardous constituent as defined at § 268.2(i) of this Section because its UTS level is greater than its TC level, thus a treated selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level
8. Measured in mg/L, TCLP.
9. This standard is temporarily deferred for soil exhibiting a hazardous characteristic due to D004-D011 only.

§ 268.49 Alternative LDR treatment standards for contaminated soil

(a) Applicability. You must comply with LDRs prior to placing soil that exhibits a characteristic of hazardous waste, or exhibited a characteristic of hazardous waste at the time it was generated, into a land disposal unit. The following chart describes whether you must comply with LDRs prior to placing soil contaminated by listed hazardous waste into a land disposal unit:

*For dates of LDR applicability, see Section 268 Appendix VII. To determine the date any given listed hazardous waste contaminated any given volume of soil, use the last date any given listed hazardous waste was placed into any given land disposal unit or, in the case of an accidental spill, the date of the spill.

(b) Prior to land disposal, contaminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be treated according to the applicable treatment standards specified in paragraph (c) of this section or according to the Universal Treatment Standards specified in § 268.48 applicable to the contaminating listed hazardous waste and/or the applicable characteristic of hazardous waste if the soil is characteristic. The treatment standards specified in paragraph (c) of this section and the Universal Treatment Standards may be modified through a treatment variance approved in accordance with § 268.44.

(c) Treatment standards for contaminated soils. Prior to land disposal, contaminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be treated according to all the standards specified in this paragraph or according to the Universal Treatment Standards specified in 40 CFR 268.48.

(1) All soils. Prior to land disposal, all constituents subject to treatment must be treated as follows:

(A) For non-metals except carbon disulfide, cyclohexanone, and methanol, treatment must achieve 90 percent reduction in total constituent concentrations, except as provided by paragraph (c)(1)(C) of this section.

(B) For metals and carbon disulfide, cyclohexanone, and methanol, treatment must achieve 90 percent reduction in constituent concentrations as measured in leachate from the treated media (tested according to the TCLP) or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by paragraph (c)(1)(C) of this section.

(C) When treatment of any constituent subject to treatment to a 90 percent reduction standard would result in a concentration less than 10 times the Universal

Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the universal treatment standard is not required
Universal Treatment Standards are identified in § 268.48 – Table UTS.

(2) Soils that exhibit the characteristic of ignitability, corrosivity or reactivity. In addition to the treatment required by paragraph (c)(1) of this section, prior to land disposal, soils that exhibit the characteristic of ignitability, corrosivity, or reactivity must be treated so as to eliminate these characteristics.

| If LDRs | And if LDRs | And if | Then you |
|---|-------------------------------------|---|---------------------------|
| Applied to the listed waste when it contaminated the soil* | Apply to the listed waste now | | Must comply with LDRs |
| Didn't apply to the listed waste when it contaminated the soil* | Apply to the listed waste now | The soil is determined to contain the listed waste when the soil is first generated | Must comply with LDRs. |
| Didn't apply to the listed waste when it contaminated the soil* | Apply to the listed waste now | The soil is determined not to contain the listed waste when the soil is first generated | Needn't comply with LDRs. |
| Didn't apply to the listed waste when it contaminated the soil* | Don't apply to the listed waste now | | Needn't comply with LDRs. |

(3) Soils that contain nonanalyzable constituents. In addition to the treatment requirements of paragraphs (c)(1) and (2) of this section, prior to land disposal, the following treatment is required for soils that contain nonanalyzable constituents:

(A) For soil that contains only analyzable and nonanalyzable organic constituents, treatment of the analyzable organic constituents to the levels specified in paragraphs (c)(1) and (2) of this section; or,

(B) For soil that contains only nonanalyzable constituents, treatment by the method(s) specified in § 268.42 for the waste contained in the soil.

(d) Constituents subject to treatment. When applying the soil treatment standards in paragraph (c) of this section, constituents subject to treatment are any constituents listed in §268.48 Table UTS-Universal Treatment Standards that are reasonably expected to be present in any given volume of contaminated soil, except fluoride, selenium, sulfides, vanadium, zinc, and that are present at concentrations greater than ten times the universal treatment standard. PCBs are not a constituent subject to treatment in any given volume of soil which exhibits the toxicity characteristic solely because of the presence of metals.

(e) Management of treatment residuals. Treatment residuals from treating contaminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be managed as follows:

(1) Soil residuals are subject to the treatment standards of this section;

(2) Non-soil residuals are subject to:

(A) For soils contaminated by listed hazardous waste, the RCRA Subtitle C standards applicable to the listed hazardous waste; and

(B) For soils that exhibit a characteristic of hazardous waste, if the non-soil residual also exhibits a characteristic of hazardous waste, the treatment standards applicable to the characteristic hazardous waste.

Subsection E -- Prohibitions on Storage

§ 268.50 Prohibitions on storage of restricted wastes

(a) Except as provided in this section, the storage of hazardous wastes restricted from land disposal under Subsection C of this section of RCRA section 3004 is prohibited, unless the following conditions are met:

(1) A generator stores such wastes in tanks, containers, or containment buildings on-site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in §§ 262.16, 262.17, and sections 264 and 265 of this rule.

(2) An owner/operator of a hazardous waste treatment, storage, or disposal facility stores such wastes in tanks, containers, or containment buildings solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and:

(i) Each container is clearly marked to identify its contents and with:

(A) The words "Hazardous Waste";

(B) The applicable EPA hazardous waste number(s) (EPA hazardous waste codes) in subsections C and D of section 261 of this rule; or use a nationally recognized electronic system, such as bar coding, to identify the EPA hazardous waste number(s);

(C) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704); and

(D) The date each period of accumulation begins.

(ii) Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner/operator must comply with the operating record requirements specified in § 264.73 or § 265.73.

(3) A transporter stores manifested shipments of such wastes at a transfer facility for 10 days or less.

(b) An owner/operator of a treatment, storage or disposal facility may store such wastes for up to

one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(c) An owner/operator of a treatment, storage or disposal facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(d) If a generator's waste is exempt from a prohibition on the type of land disposal utilized for the waste (for example, because of an approved case-by-case extension under § 268.5, an approved § 268.6 petition, or a national capacity variance under Subsection C), the prohibition in paragraph (a) of this section does not apply during the period of such exemption.

(e) The prohibition in paragraph (a) of this section does not apply to hazardous wastes that meet the treatment standards specified under §§ 268.41, 268.42, and 268.43 or the treatment standards specified under the variance in § 268.44, or, where treatment standards have not been specified, is in compliance with the applicable prohibitions specified in § 268.32 or RCRA section 3004.

(f) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm must be stored at a facility that meets the requirements of 40 CFR 761.65(b) and must be removed from storage and treated or disposed as required by this section within one year of the date when such wastes are first placed into storage. The provisions of paragraph (c) of this section do not apply to such PCB wastes prohibited under § 268.32 of this section.

(g) The prohibition and requirements in this Section do not apply to hazardous remediation wastes stored in a staging pile approved pursuant to § 264.554 of this rule.

Appendix I to Section 268 -- [Reserved]

Appendix II to Section 268 -- [Reserved]

Appendix III to Section 268—List of Halogenated Organic Compounds Regulated Under § 268.32

In determining the concentration of HOCs in a hazardous waste for purposes of the § 268.32 land disposal prohibition, EPA has defined the HOCs that must be included in a calculation as any compounds having a carbon-halogen bond which are listed in this Appendix (see § 268.2).

Appendix III to Part 268 consists of the following compounds:

I Volatiles

1. Bromodichloromethane
2. Bromomethane
3. Carbon Tetrachloride
4. Chlorobenzene
5. 2-Chloro-1,3-butadiene

6. Chlorodibromomethane
7. Chloroethane
8. 2-Chloroethyl vinyl ether
9. Chloroform
10. Chloromethane
11. 3-Chloropropene
12. 1,2-Dibromo-3-chloropropane
13. 1,2-Dibromomethane
14. Dibromomethane
15. Trans-1,4-Dichloro-2—butene
16. Dichlorodifluoromethane
17. 1,1-Dichloroethane
18. 1,2-Dichloroethane
19. 1,1-Dichloroethylene
20. Trans-1,2-Dichloroethene
21. 1,2-Dichloropropane
22. Trans-1,3-Dichloropropene
23. cis-1,3-Dichloropropene
24. Iodomethane
25. Methylene chloride
26. 1,1,1,2-Tetrachloroethane
27. 1,1,2,2-Tetrachloroethane
28. Tetrachloroethene
29. Tribromomethane
30. 1,1,1-Trichloroethane
31. 1,1,2-Trichloroethane
32. Trichloroethene
33. Trichloromonofluoromethane
34. 1,2,3-Trichloropropane
35. Vinyl Chloride

II. Semivolatiles

1. Bis(2-chloroethoxy)ethane
2. Bis(2-chloroethyl)ether
3. Bis(2-chloroisopropyl)ether
4. p-Chloroaniline
5. Chlorobenzilate
6. p-Chloro-m-cresol
7. 2-Chloronaphthalene
8. 2-Chlorophenol
9. 3-Chloropropionitrile
10. m-Dichlorobenzene
11. o-Dichlorobenzene
12. p-Dichlorobenzene
13. 3,3'-Dichlorobenzidine

14. 2,4-Dichlorophenol
15. 2,6-Dichlorophenol
16. Hexachlorobenzene
17. Hexachlorobutadiene
18. Hexachlorocyclopentadiene
19. Hexachloroethane
20. Hexachloroprophene
21. Hexachlorpropene
22. 4,4'-Methylenebis(2-chloroaniline)
23. Pentachlorobenzene
24. Pentachloroethane
25. Pentachloronitrobenzene
26. Pentachlorophenol
27. Pronamide
28. 1,2,4,5-Tetrachlorobenzene
29. 2,3,4,6-Tetrachlorophenol
30. 1,2,4-Trichlorobenzene
31. 2,4,5-Trichlorophenol
32. 2,4,6-Trichlorophenol
33. Tris(2,3-dibromopropyl)phosphate

III. Organochlorine Pesticides

1. Aldrin
2. alpha-BHC
3. beta-BHC
4. delta-BHC
5. gamma-BHC
6. Chlorodane
7. DDD
8. DDE
9. DDT
10. Dieldrin
11. Endosulfan I
12. Endosulfan II
13. Endrin
14. Endrin aldehyde
15. Heptachlor
16. Heptachlor epoxide
17. Isodrin
18. Kepone
19. Methoxychlor
20. Toxaphene

IV. Phenoxyacetic Acid Herbicides

1. 2,4-Dichlorophenoxyacetic acid
2. Silvex
3. 2,4,5-T

V. PCBs

1. Aroclor 1016
2. Aroclor 1221
3. Aroclor 1232
4. Aroclor 1242
5. Aroclor 1248
6. Aroclor 1254
7. Aroclor 1260
8. PCBs not otherwise specified

VI. Dioxins and Furans

1. Hexachlorodibenzo-p-dioxins
2. Hexachlorodibenzofuran
3. Pentachlorodibenzo-p-dioxins
4. Pentachlorodibenzofuran
5. Tetrachlorodibenzo-p-dioxins
6. Tetrachlorodibenzofuran
7. 2,3,7,8-Tetrachlorodibenzo-p-dioxin

Appendix IV to Section 268-Wastes Excluded From Lab Packs Under the Alternative Treatment Standards of § 268.42(c)

Hazardous waste with the following EPA Hazardous Waste Codes may not be placed in lab packs under the alternative lab pack treatment standards of § 268.42(c): D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, U151.

Appendix V to Section 268 -- [Reserved]

Appendix VI to Section 268 — Recommended Technologies to Achieve Deactivation of Characteristics in Section 268.42

The treatment standard for many characteristic wastes is stated in the § 268.40 Table of Treatment Standards as “Deactivation and meev UTS.” EPA has determined that many technologies, when used alone or in combination, can achieve the deactivation portion of the treatment standard. Characteristic wastes that are not managed in a facility regulated by the Clean Water Act (CWA) or in a CWA-equivalent facility, and that also contain underlying hazardous constituents (see §

268.2(i)) must be treated not only by a “deactivating” technology to remove the characteristic, but also to achieve the universal treatment standards (UTS) for underlying hazardous constituents. The following appendix presents a partial list of technologies, utilizing the five letter technology codes established in § 268.42 Table 1, that may be useful in meeting the treatment standard. Use of these specific technologies is not mandatory and does not preclude direct reuse, recovery, and/or the use of other pretreatment technologies, provided deactivation is achieved and underlying hazardous constituents are treated to achieve the UTS.

| Waste code/subcategory | Nonwastewaters | Wastewaters |
|--|--|---|
| D001 Ignitable Liquids based on 261.21(a)(1)—Low TOC Nonwastewater Subcategory (containing 1% to <10% TOC) | RORGS INCIN WETOX CHOXD BIODG | n.a. |
| D001 Ignitable Liquids based on 261.21(a)(1)—Ignitable Wastewater Subcategory (containing <1% TOC) | n.a. | RORGS INCIN WETOX CHOXD BIODG |
| D001 Compressed Gases based on 261.21(A)(3) | RCGAS INCIN FSUBS ADGAS fb. INCIN ADGAS fb. (CHOXD; or CHRED) | n.a. |
| D001 Ignitable Reactives based on 261.21(a)(2) | WTRRX CHOXD CHRED STABL INCIN | n.a. |
| D001 Ignitable Oxidizers based on 261.21(a)(4) | CHRED INCIN | CHRED INCIN |
| D002 Acid Subcategory based on 261.22(a)(1) with pH less than or equal to 2 | RCORR NEUTR INCIN | NEUTR INCIN |
| D002 Alkaline Subcategory based on 261.22(a)(1) with pH greater than or equal to 12.5 | NEUTR INCIN | NEUTR INCIN |
| D002 Other Corrosives based on 261.22(a)(2) | CHOXD CHRED INCIN STABL | CHOXD CHRED INCIN |

| | | |
|---|----------------------------------|---|
| D003 Water Reactives based on 261.23(a) (2), (3), and (4) | INCIN WTRRX CHOXD CHRED | n.a. |
| D003 Reactive Sulfides based on 261.23(a)(5) | CHOXD CHRED INCIN STABL | CHOXD CHRED BIODG INCIN |
| D003 Explosives based on 261.23(a) (6), (7), and (8) | INCIN CHOXD CHRED | INCIN CHOXD CHRED BIODG CARBN |
| D003 Other Reactives based on 261.23(a)(1) | INCIN CHOXD CHRED | INCIN CHOXD CHRED BIODG CARBN |
| K044 Wastewater treatment sludges from the manufacturing and processing of explosives | CHOXD CHRED INCIN | CHOXD CHRED BIODG CARBN INCIN |
| K045 Spent carbon from the treatment of wastewaters containing explosives | CHOXD CHRED INCIN | CHOXD CHRED BIODG CARBN INCIN |
| K047 Pink/red water from TNT operations | CHOXD CHRED INCIN | CHOXD CHRED BIODG CARBN INCIN |

Note: “N/A” stands for “not applicable”; “fb” stands for “followed by”

Appendix VII to Section 268

Table 1

Effective Dates of Surface Disposed Wastes (Non-Soil and Debris) Regulated in the LDRS^a — Comprehensive List

| Waste code | Waste category | Effective date |
|-------------------|--|-----------------------|
| D001 ^c | All (except High TOC Ignitable Liquids) | Aug. 9, 1993. |
| D001 | High TOC Ignitable Liquids | Aug. 8, 1990. |
| D002 ^c | All | Aug. 9, 1993. |
| D003 | Newly identified surface-disposed elemental phosphorus processing wastes | May 26, 2000. |
| D004 | Newly identified D004 and mineral processing wastes | Aug. 24, 1998. |
| D004 | Mixed radioactive/newly identified D004 or mineral processing wastes | May 26, 2000 |
| D005 | Newly identified D005 and mineral processing wastes | Aug. 24, 1998. |
| D005 | Mixed radioactive/newly identified D005 or mineral processing wastes | May 26, 2000. |
| D006 | Newly identified D006 and mineral processing wastes | Aug. 24, 1998. |
| D006 | Mixed radioactive/newly identified D006 or mineral processing wastes | May 26, 2000. |
| D007 | Newly identified D007 and mineral processing wastes | Aug. 24, 1998. |
| D007 | Mixed radioactive/newly identified D007 or mineral processing wastes | May 26, 2000. |
| D008 | Newly identified D008 and mineral processing waste | Aug. 24, 1998. |
| D008 | Mixed radioactive/newly identified D008 or mineral processing wastes | May 26, 2000. |
| D009 | Newly identified D009 and mineral processing waste | Aug. 24, 1998. |
| D009 | Mixed radioactive/newly identified D009 or mineral processing wastes | May 26, 2000. |
| D010 | Newly identified D010 and mineral processing wastes | Aug. 24, 1998. |

| | | |
|--|--|-----------------|
| D010 | Mixed radioactive/newly identified D010 or mineral processing wastes | May 26, 2000. |
| D011 | Newly identified D011 and mineral processing wastes | Aug. 24, 1998. |
| D011 | Mixed radioactive/newly identified D011 or mineral processing wastes | May 26, 2000. |
| D012 (that exhibit the toxicity characteristic based on the TCLP) ^d | All | Dec. 14, 1994. |
| D013 (that exhibit the toxicity characteristic based on the TCLP) ^d | All | Dec. 14, 1994. |
| D014 (that exhibit the toxicity characteristic based on the TCLP) ^d | All | Dec. 14, 1994. |
| D015 (that exhibit the toxicity characteristic based on the TCLP) ^d | All | Dec. 14, 1994. |
| D016 (that exhibit the toxicity characteristic based on the TCLP) ^d | All | Dec. 14, 1994. |
| D017 (that exhibit the toxicity characteristic based on the TCLP) ^d | All | Dec. 14, 1994. |
| D018 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D018 | All others | Dec. 19, 1994. |
| D019 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D019 | All others | Dec. 19, 1994. |
| D020 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D020 | All others | Dec. 19, 1994. |
| D021 | Mixed with radioactive wastes | Sept. 19, 1996. |

| | | |
|------|-------------------------------|-----------------|
| D021 | All others | Dec. 19, 1994. |
| D022 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D022 | All others | Dec. 19, 1994. |
| D023 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D023 | All others | Dec. 19, 1994. |
| D024 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D024 | All others | Dec. 19, 1994. |
| D025 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D025 | All others | Dec. 19, 1994. |
| D026 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D026 | All others | Dec. 19, 1994. |
| D027 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D027 | All others | Dec. 19, 1994. |
| D028 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D028 | All others | Dec. 19, 1994. |
| D029 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D029 | All others | Dec. 19, 1994. |
| D030 | Mixed with radioactive wastes | Sept. 19, 1996. |

| | | |
|------|-------------------------------|-----------------|
| D030 | All others | Dec. 19, 1994. |
| D031 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D031 | All others | Dec. 19, 1994. |
| D032 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D032 | All others | Dec. 19, 1994. |
| D033 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D033 | All others | Dec. 19, 1994. |
| D034 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D034 | All others | Dec. 19, 1994. |
| D035 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D035 | All others | Dec. 19, 1994. |
| D036 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D036 | All others | Dec. 19, 1994. |
| D037 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D037 | All others | Dec. 19, 1994. |
| D038 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D038 | All others | Dec. 19, 1994. |
| D039 | Mixed with radioactive wastes | Sept. 19, 1996. |

| | | |
|------------------------------|--|-----------------|
| D039 | All others | Dec. 19, 1994. |
| D040 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D040 | All others | Dec. 19, 1994. |
| D041 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D041 | All others | Dec. 19, 1994. |
| D042 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D042 | All others | Dec. 19, 1994. |
| D043 | Mixed with radioactive wastes | Sept. 19, 1996. |
| D043 | All others | Dec. 19, 1994. |
| F001 | Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids | Nov. 8, 1988. |
| F001 | All others | Nov. 8, 1986. |
| F002 (1,1,2-trichloroethane) | Wastewater and Nonwastewater | Aug. 8, 1990. |
| F002 | Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids | Nov. 8, 1988. |
| F002 | All others | Nov. 8, 1986. |
| F003 | Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids | Nov. 8, 1988. |
| F003 | All others | Nov. 8, 1986. |
| F004 | Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water | Nov. 8, 1988. |

| | | |
|--|--|---------------|
| | mixtures, solvent-containing sludges and solids | |
| F004 | All others | Nov. 8, 1986. |
| F005 (benzene, 2-ethoxy ethanol, 2-nitropropane) | Wastewater and Nonwastewater | Aug. 8, 1990. |
| F005 | Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids | Nov. 8, 1988. |
| F005 | All others | Nov. 8, 1986. |
| F006 | Wastewater | Aug. 8, 1990. |
| F006 | Nonwastewater | Aug. 8, 1988. |
| F006 (cyanides) | Nonwastewater | July 8, 1989. |
| F007 | All | July 8, 1989. |
| F008 | All | July 8, 1989. |
| F009 | All | July 8, 1989. |
| F010 | All | June 8, 1989. |
| F011 (cyanides) | Nonwastewater | Dec. 8, 1989. |
| F011 | All others | July 8, 1989. |
| F012 (cyanides) | Nonwastewater | Dec. 8, 1989. |
| F012 | All others | July 8, 1989. |
| F019 | All | Aug. 8, 1990. |
| F020 | All | Nov. 8, 1988. |

| | | |
|------|--|----------------|
| F021 | All | Nov. 8, 1988. |
| F025 | All | Aug. 8, 1990. |
| F026 | All | Nov. 8, 1988. |
| F027 | All | Nov. 8, 1988. |
| F028 | All | Nov. 8, 1988. |
| F032 | Mixed with radioactive wastes | May 12, 1999 |
| F032 | All others | Aug. 12, 1997. |
| F034 | Mixed with radioactive wastes | May 12, 1999 |
| F034 | All others | Aug. 12, 1997. |
| F035 | Mixed with radioactive wastes | May 12, 1999. |
| F035 | All others | Aug. 12, 1997. |
| F037 | Not generated from surface impoundment cleanouts or closures | June 30, 1993. |
| F037 | Generated from surface impoundment cleanouts or closures | June 30, 1994. |
| F037 | Mixed with radioactive wastes | June 30, 1994. |
| F038 | Not generated from surface impoundment cleanouts or closures | June 30, 1993. |
| F038 | Generated from surface impoundment cleanouts or closures | June 30, 1994. |
| F038 | Mixed with radioactive wastes | June 30, 1994. |
| F039 | Wastewater | Aug. 8, 1990. |

| | | |
|------------------------------|---------------|---------------|
| F039 | Nonwastewater | May 8, 1992. |
| K001 (organics) ^b | All | Aug. 8, 1988. |
| K001 | All others | Aug. 8, 1988. |
| K002 | All | Aug. 8, 1990. |
| K003 | All | Aug. 8, 1990. |
| K004 | Wastewater | Aug. 8, 1990. |
| K004 | Nonwastewater | Aug. 8, 1988. |
| K005 | Wastewater | Aug. 8, 1990. |
| K005 | Nonwastewater | June 8, 1989. |
| K006 | All | Aug. 8, 1990. |
| K007 | Wastewater | Aug. 8, 1990. |
| K007 | Nonwastewater | June 8, 1989. |
| K008 | Wastewater | Aug. 8, 1990. |
| K008 | Nonwastewater | Aug. 8, 1988. |
| K009 | All | June 8, 1989. |
| K010 | All | June 8, 1989. |
| K011 | Wastewater | Aug. 8, 1990. |
| K011 | Nonwastewater | June 8, 1989. |

| | | |
|------|---------------|---------------|
| K013 | Wastewater | Aug. 8, 1990. |
| K013 | Nonwastewater | June 8, 1989. |
| K014 | Wastewater | Aug. 8, 1990. |
| K014 | Nonwastewater | June 8, 1989. |
| K015 | Wastewater | Aug. 8, 1988. |
| K015 | Nonwastewater | Aug. 8, 1990. |
| K016 | All | Aug. 8, 1988. |
| K017 | All | Aug. 8, 1990. |
| K018 | All | Aug. 8, 1988. |
| K019 | All | Aug. 8, 1988. |
| K020 | All | Aug. 8, 1988. |
| K021 | Wastewater | Aug. 8, 1990. |
| K021 | Nonwastewater | Aug. 8, 1988. |
| K022 | Wastewater | Aug. 8, 1990. |
| K022 | Nonwastewater | Aug. 8, 1988. |
| K023 | All | June 8, 1989. |
| K024 | All | Aug. 8, 1988. |
| K025 | Wastewater | Aug. 8, 1990. |

| | | |
|-------------------|---------------|---------------|
| K025 | Nonwastewater | Aug. 8, 1988. |
| K026 | All | Aug. 8, 1990. |
| K027 | All | June 8, 1989. |
| K028 (metals) | Nonwastewater | Aug. 8, 1990. |
| K028 | All others | June 8, 1989. |
| K029 | Wastewater | Aug. 8, 1990. |
| K029 | Nonwastewater | June 8, 1989. |
| K030 | All | Aug. 8, 1988. |
| K031 | Wastewater | Aug. 8, 1990. |
| K031 | Nonwastewater | May 8, 1992. |
| K032 | All | Aug. 8, 1990. |
| K033 | All | Aug. 8, 1990. |
| K034 | All | Aug. 8, 1990. |
| K035 | All | Aug. 8, 1990. |
| K036 | Wastewater | June 8, 1989. |
| K036 | Nonwastewater | Aug. 8, 1988. |
| K037 ^b | Wastewater | Aug. 8, 1988. |
| K037 | Nonwastewater | Aug. 8, 1988. |

| | | |
|--------------------|---------------|---------------|
| K038 | All | June 8, 1989. |
| K039 | All | June 8, 1989. |
| K040 | All | June 8, 1989. |
| K041 | All | Aug. 8, 1990. |
| K042 | All | Aug. 8, 1990. |
| K043 | All | June 8, 1989. |
| K044 | All | Aug. 8, 1988. |
| K045 | All | Aug. 8, 1988. |
| K046 (Nonreactive) | Nonwastewater | Aug. 8, 1988. |
| K046 | All others | Aug. 8, 1990. |
| K047 | All | Aug. 8, 1988. |
| K048 | Wastewater | Aug. 8, 1990. |
| K048 | Nonwastewater | Nov. 8, 1990. |
| K049 | Wastewater | Aug. 8, 1990. |
| K049 | Nonwastewater | Nov. 8, 1990. |
| K050 | Wastewater | Aug. 8, 1990. |
| K050 | Nonwastewater | Nov. 8, 1990. |
| K051 | Wastewater | Aug. 8, 1990. |

| | | |
|------------------------------|---------------|----------------|
| K051 | Nonwastewater | Nov. 8, 1990. |
| K052 | Wastewater | Aug. 8, 1990. |
| K052 | Nonwastewater | Nov. 8, 1990. |
| K060 | Wastewater | Aug. 8, 1990. |
| K060 | Nonwastewater | Aug. 8, 1988. |
| K061 | Wastewater | Aug. 8, 1990. |
| K061 | Nonwastewater | June 30, 1992. |
| K062 | All | Aug. 8, 1988. |
| K069 (Non-Calcium Sulfate) | Nonwastewater | Aug. 8, 1988. |
| K069 | All others | Aug. 8, 1990. |
| K071 | All | Aug. 8, 1990. |
| K073 | All | Aug. 8, 1990. |
| K083 | All | Aug. 8, 1990. |
| K084 | Wastewater | Aug. 8, 1990. |
| K084 | Nonwastewater | May 8, 1992. |
| K085 | All | Aug. 8, 1990. |
| K086 (organics) ^b | All | Aug. 8, 1988. |
| K086 | All others | Aug. 8, 1988. |

| | | |
|-----------------|---------------|---------------|
| K087 | All | Aug. 8, 1988. |
| K088 | All others | Oct. 8, 1997. |
| K088 | All others | Jan. 8, 1997. |
| K093 | All | June 8, 1989. |
| K094 | All | June 8, 1989. |
| K095 | Wastewater | Aug. 8, 1990. |
| K095 | Nonwastewater | June 8, 1989. |
| K096 | Wastewater | Aug. 8, 1990. |
| K096 | Nonwastewater | June 8, 1989. |
| K097 | All | Aug. 8, 1990. |
| K098 | All | Aug. 8, 1990. |
| K099 | All | Aug. 8, 1988. |
| K100 | Wastewater | Aug. 8, 1990. |
| K100 | Nonwastewater | Aug. 8, 1988. |
| K101 (organics) | Wastewater | Aug. 8, 1988. |
| K101 (metals) | Wastewater | Aug. 8, 1990. |
| K101 (organics) | Nonwastewater | Aug. 8, 1988. |
| K101 (metals) | Nonwastewater | May 8, 1992. |

| | | |
|-----------------|-------------------------------|----------------|
| K102 (organics) | Wastewater | Aug. 8, 1988. |
| K102 (metals) | Wastewater | Aug. 8, 1990. |
| K102 (organics) | Nonwastewater | Aug. 8, 1988. |
| K102 (metals) | Nonwastewater | May 8, 1992. |
| K103 | All | Aug. 8, 1988. |
| K104 | All | Aug. 8, 1988. |
| K105 | All | Aug. 8, 1990. |
| K106 | Wastewater | Aug. 8, 1990. |
| K106 | Nonwastewater | May 8, 1992. |
| K107 | Mixed with radioactive wastes | June 30, 1994. |
| K107 | All others | Nov. 9, 1992. |
| K108 | Mixed with radioactive wastes | June 30, 1994. |
| K108 | All others | Nov. 9, 1992. |
| K109 | Mixed with radioactive wastes | June 30, 1994. |
| K109 | All others | Nov. 9, 1992. |
| K110 | Mixed with radioactive wastes | June 30, 1994. |
| K110 | All others | Nov. 9, 1992. |
| K111 | Mixed with radioactive wastes | June 30, 1994. |

| | | |
|------|-------------------------------|----------------|
| K111 | All others | Nov. 9, 1992. |
| K112 | Mixed with radioactive wastes | June 30, 1994. |
| K112 | All others | Nov. 9, 1992. |
| K113 | All | June 8, 1989. |
| K114 | All | June 8, 1989. |
| K115 | All | June 8, 1989. |
| K116 | All | June 8, 1989. |
| K117 | Mixed with radioactive wastes | June 30, 1994. |
| K117 | All others | Nov. 9, 1992. |
| K118 | Mixed with radioactive wastes | June 30, 1994. |
| K118 | All others | Nov. 9, 1992. |
| K123 | Mixed with radioactive wastes | June 30, 1994. |
| K123 | All others | Nov. 9, 1992. |
| K124 | Mixed with radioactive wastes | June 30, 1994. |
| K124 | All others | Nov. 9, 1992. |
| K125 | Mixed with radioactive wastes | June 30, 1994. |
| K125 | All others | Nov. 9, 1992. |
| K126 | Mixed with radioactive wastes | June 30, 1994. |

| | | |
|------|-------------------------------|----------------|
| K126 | All others | Nov. 9, 1992. |
| K131 | Mixed with radioactive wastes | June 30, 1994. |
| K131 | All others | Nov. 9, 1992. |
| K132 | Mixed with radioactive wastes | June 30, 1994. |
| K132 | All others | Nov. 9, 1992. |
| K136 | Mixed with radioactive wastes | June 30, 1994. |
| K136 | All others | Nov. 9, 1992. |
| K141 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K141 | All others | Dec. 19, 1994. |
| K142 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K142 | All others | Dec. 19, 1994. |
| K143 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K143 | All others | Dec. 19, 1994. |
| K144 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K144 | All others | Dec. 19, 1994. |
| K145 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K145 | All others | Dec. 19, 1994. |
| K147 | Mixed with radioactive wastes | Sep. 19, 1996. |

| | | |
|------|-------------------------------|----------------|
| K147 | All others | Dec. 19, 1994. |
| K148 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K148 | All others | Dec. 19, 1994. |
| K149 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K149 | All others | Dec. 19, 1994. |
| K150 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K150 | All others | Dec. 19, 1994. |
| K151 | Mixed with radioactive wastes | Sep. 19, 1996. |
| K151 | All others | Dec. 19, 1994. |
| K156 | Mixed with radioactive wastes | Apr. 8, 1998. |
| K156 | All others | July 8, 1996. |
| K157 | Mixed with radioactive wastes | Apr. 8, 1998. |
| K157 | All others | July 8, 1996. |
| K158 | Mixed with radioactive wastes | Apr. 8, 1998. |
| K158 | All others | July 8, 1996. |
| K159 | Mixed with radioactive wastes | Apr. 8, 1998. |
| K159 | All others | July 8, 1996. |
| K160 | Mixed with radioactive wastes | Apr. 8, 1998. |

| | | |
|------|-------------------------------|---------------|
| K160 | All others | July 8, 1996. |
| K161 | Mixed with radioactive wastes | Apr. 8, 1998. |
| K161 | All others | July 8, 1996. |
| P001 | All | Aug. 8, 1990. |
| P002 | All | Aug. 8, 1990. |
| P003 | All | Aug. 8, 1990. |
| P004 | All | Aug. 8, 1990. |
| P005 | All | Aug. 8, 1990. |
| P006 | All | Aug. 8, 1990. |
| P007 | All | Aug. 8, 1990. |
| P008 | All | Aug. 8, 1990. |
| P009 | All | Aug. 8, 1990. |
| P010 | Wastewater | Aug. 8, 1990. |
| P010 | Nonwastewater | May 8, 1992. |
| P011 | Wastewater | Aug. 8, 1990. |
| P011 | Nonwastewater | May 8, 1992. |
| P012 | Wastewater | Aug. 8, 1990. |
| P012 | Nonwastewater | May 8, 1992. |

| | | |
|---------------|---------------|---------------|
| P013 (barium) | Nonwastewater | Aug. 8, 1990. |
| P013 | All others | June 8, 1989. |
| P014 | All | Aug. 8, 1990. |
| P015 | All | Aug. 8, 1990. |
| P016 | All | Aug. 8, 1990. |
| P017 | All | Aug. 8, 1990. |
| P018 | All | Aug. 8, 1990. |
| P020 | All | Aug. 8, 1990. |
| P021 | All | June 8, 1989. |
| P022 | All | Aug. 8, 1990. |
| P023 | All | Aug. 8, 1990. |
| P024 | All | Aug. 8, 1990. |
| P026 | All | Aug. 8, 1990. |
| P027 | All | Aug. 8, 1990. |
| P028 | All | Aug. 8, 1990. |
| P029 | All | June 8, 1989. |
| P030 | All | June 8, 1989. |
| P031 | All | Aug. 8, 1990. |

| | | |
|------|---------------|---------------|
| P033 | All | Aug. 8, 1990. |
| P034 | All | Aug. 8, 1990. |
| P036 | Wastewater | Aug. 8, 1990. |
| P036 | Nonwastewater | May 8, 1992. |
| P037 | All | Aug. 8, 1990. |
| P038 | Wastewater | Aug. 8, 1990. |
| P038 | Nonwastewater | May 8, 1992. |
| P039 | All | June 8, 1989. |
| P040 | All | June 8, 1989. |
| P041 | All | June 8, 1989. |
| P042 | All | Aug. 8, 1990. |
| P043 | All | June 8, 1989. |
| P044 | All | June 8, 1989. |
| P045 | All | Aug. 8, 1990. |
| P046 | All | Aug. 8, 1990. |
| P047 | All | Aug. 8, 1990. |
| P048 | All | Aug. 8, 1990. |
| P049 | All | Aug. 8, 1990. |

| | | |
|------|---------------|---------------|
| P050 | All | Aug. 8, 1990. |
| P051 | All | Aug. 8, 1990. |
| P054 | All | Aug. 8, 1990. |
| P056 | All | Aug. 8, 1990. |
| P057 | All | Aug. 8, 1990. |
| P058 | All | Aug. 8, 1990. |
| P059 | All | Aug. 8, 1990. |
| P060 | All | Aug. 8, 1990. |
| P062 | All | June 8, 1989. |
| P063 | All | June 8, 1989. |
| P064 | All | Aug. 8, 1990. |
| P065 | Wastewater | Aug. 8, 1990. |
| P065 | Nonwastewater | May 8, 1992. |
| P066 | All | Aug. 8, 1990. |
| P067 | All | Aug. 8, 1990. |
| P068 | All | Aug. 8, 1990. |
| P069 | All | Aug. 8, 1990. |
| P070 | All | Aug. 8, 1990. |

| | | |
|------|---------------|---------------|
| P071 | All | June 8, 1989. |
| P072 | All | Aug. 8, 1990. |
| P073 | All | Aug. 8, 1990. |
| P074 | All | June 8, 1989. |
| P075 | All | Aug. 8, 1990. |
| P076 | All | Aug. 8, 1990. |
| P077 | All | Aug. 8, 1990. |
| P078 | All | Aug. 8, 1990. |
| P081 | All | Aug. 8, 1990. |
| P082 | All | Aug. 8, 1990. |
| P084 | All | Aug. 8, 1990. |
| P085 | All | June 8, 1989. |
| P087 | All | May 8, 1992. |
| P088 | All | Aug. 8, 1990. |
| P089 | All | June 8, 1989. |
| P092 | Wastewater | Aug. 8, 1990. |
| P092 | Nonwastewater | May 8, 1992. |
| P093 | All | Aug. 8, 1990. |

| | | |
|---------------|------------|---------------|
| P094 | All | June 8, 1989. |
| P095 | All | Aug. 8, 1990. |
| P096 | All | Aug. 8, 1990. |
| P097 | All | June 8, 1989. |
| P098 | All | June 8, 1989. |
| P099 (silver) | Wastewater | Aug. 8, 1990. |
| P099 | All others | June 8, 1989. |
| P101 | All | Aug. 8, 1990. |
| P102 | All | Aug. 8, 1990. |
| P103 | All | Aug. 8, 1990. |
| P104 (silver) | Wastewater | Aug. 8, 1990. |
| P104 | All others | June 8, 1989. |
| P105 | All | Aug. 8, 1990. |
| P106 | All | June 8, 1989. |
| P108 | All | Aug. 8, 1990. |
| P109 | All | June 8, 1989. |
| P110 | All | Aug. 8, 1990. |
| P111 | All | June 8, 1989. |

| | | |
|------|-------------------------------|---------------|
| P112 | All | Aug. 8, 1990. |
| P113 | All | Aug. 8, 1990. |
| P114 | All | Aug. 8, 1990. |
| P115 | All | Aug. 8, 1990. |
| P116 | All | Aug. 8, 1990. |
| P118 | All | Aug. 8, 1990. |
| P119 | All | Aug. 8, 1990. |
| P120 | All | Aug. 8, 1990. |
| P121 | All | June 8, 1989. |
| P122 | All | Aug. 8, 1990. |
| P123 | All | Aug. 8, 1990. |
| P127 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P127 | All others | July 8, 1996. |
| P128 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P128 | All others | July 8, 1996. |
| P185 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P185 | All others | July 8, 1996. |
| P188 | Mixed with radioactive wastes | Apr. 8, 1998. |

| | | |
|------|-------------------------------|---------------|
| P188 | All others | July 8, 1996. |
| P189 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P189 | All others | July 8, 1996. |
| P190 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P190 | All others | July 8, 1996. |
| P191 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P191 | All others | July 8, 1996. |
| P192 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P192 | All others | July 8, 1996. |
| P194 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P194 | All others | July 8, 1996. |
| P196 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P196 | All others | July 8, 1996. |
| P197 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P197 | All others | July 8, 1996. |
| P198 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P198 | All others | July 8, 1996. |
| P199 | Mixed with radioactive wastes | Apr. 8, 1998. |

| | | |
|------|-------------------------------|---------------|
| P199 | All others | July 8, 1996. |
| P201 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P201 | All others | July 8, 1996. |
| P202 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P202 | All others | July 8, 1996. |
| P203 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P203 | All others | July 8, 1996. |
| P204 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P204 | All others | July 8, 1996. |
| P205 | Mixed with radioactive wastes | Apr. 8, 1998. |
| P205 | All others | July 8, 1996. |
| U001 | All | Aug. 8, 1990. |
| U002 | All | Aug. 8, 1990. |
| U003 | All | Aug. 8, 1990. |
| U004 | All | Aug. 8, 1990. |
| U005 | All | Aug. 8, 1990. |
| U006 | All | Aug. 8, 1990. |
| U007 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U008 | All | Aug. 8, 1990. |
| U009 | All | Aug. 8, 1990. |
| U010 | All | Aug. 8, 1990. |
| U011 | All | Aug. 8, 1990. |
| U012 | All | Aug. 8, 1990. |
| U014 | All | Aug. 8, 1990. |
| U015 | All | Aug. 8, 1990. |
| U016 | All | Aug. 8, 1990. |
| U017 | All | Aug. 8, 1990. |
| U018 | All | Aug. 8, 1990. |
| U019 | All | Aug. 8, 1990. |
| U020 | All | Aug. 8, 1990. |
| U021 | All | Aug. 8, 1990. |
| U022 | All | Aug. 8, 1990. |
| U023 | All | Aug. 8, 1990. |
| U024 | All | Aug. 8, 1990. |
| U025 | All | Aug. 8, 1990. |
| U026 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U027 | All | Aug. 8, 1990. |
| U028 | All | June 8, 1989. |
| U029 | All | Aug. 8, 1990. |
| U030 | All | Aug. 8, 1990. |
| U031 | All | Aug. 8, 1990. |
| U032 | All | Aug. 8, 1990. |
| U033 | All | Aug. 8, 1990. |
| U034 | All | Aug. 8, 1990. |
| U035 | All | Aug. 8, 1990. |
| U036 | All | Aug. 8, 1990. |
| U037 | All | Aug. 8, 1990. |
| U038 | All | Aug. 8, 1990. |
| U039 | All | Aug. 8, 1990. |
| U041 | All | Aug. 8, 1990. |
| U042 | All | Aug. 8, 1990. |
| U043 | All | Aug. 8, 1990. |
| U044 | All | Aug. 8, 1990. |
| U045 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U046 | All | Aug. 8, 1990. |
| U047 | All | Aug. 8, 1990. |
| U048 | All | Aug. 8, 1990. |
| U049 | All | Aug. 8, 1990. |
| U050 | All | Aug. 8, 1990. |
| U051 | All | Aug. 8, 1990. |
| U052 | All | Aug. 8, 1990. |
| U053 | All | Aug. 8, 1990. |
| U055 | All | Aug. 8, 1990. |
| U056 | All | Aug. 8, 1990. |
| U057 | All | Aug. 8, 1990. |
| U058 | All | June 8, 1989. |
| U059 | All | Aug. 8, 1990. |
| U060 | All | Aug. 8, 1990. |
| U061 | All | Aug. 8, 1990. |
| U062 | All | Aug. 8, 1990. |
| U063 | All | Aug. 8, 1990. |
| U064 | All | Aug. 8, 1990. |

| | | |
|------|-----|----------------|
| U066 | All | Aug. 8, 1990. |
| U067 | All | Aug. 8, 1990. |
| U068 | All | Aug. 8, 1990. |
| U069 | All | June 30, 1992. |
| U070 | All | Aug. 8, 1990. |
| U071 | All | Aug. 8, 1990. |
| U072 | All | Aug. 8, 1990. |
| U073 | All | Aug. 8, 1990. |
| U074 | All | Aug. 8, 1990. |
| U075 | All | Aug. 8, 1990. |
| U076 | All | Aug. 8, 1990. |
| U077 | All | Aug. 8, 1990. |
| U078 | All | Aug. 8, 1990. |
| U079 | All | Aug. 8, 1990. |
| U080 | All | Aug. 8, 1990. |
| U081 | All | Aug. 8, 1990. |
| U082 | All | Aug. 8, 1990. |
| U083 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U084 | All | Aug. 8, 1990. |
| U085 | All | Aug. 8, 1990. |
| U086 | All | Aug. 8, 1990. |
| U087 | All | June 8, 1989. |
| U088 | All | June 8, 1989. |
| U089 | All | Aug. 8, 1990. |
| U090 | All | Aug. 8, 1990. |
| U091 | All | Aug. 8, 1990. |
| U092 | All | Aug. 8, 1990. |
| U093 | All | Aug. 8, 1990. |
| U094 | All | Aug. 8, 1990. |
| U095 | All | Aug. 8, 1990. |
| U096 | All | Aug. 8, 1990. |
| U097 | All | Aug. 8, 1990. |
| U098 | All | Aug. 8, 1990. |
| U099 | All | Aug. 8, 1990. |
| U101 | All | Aug. 8, 1990. |
| U102 | All | June 8, 1989. |

| | | |
|------|-----|---------------|
| U103 | All | Aug. 8, 1990. |
| U105 | All | Aug. 8, 1990. |
| U106 | All | Aug. 8, 1990. |
| U107 | All | June 8, 1989. |
| U108 | All | Aug. 8, 1990. |
| U109 | All | Aug. 8, 1990. |
| U110 | All | Aug. 8, 1990. |
| U111 | All | Aug. 8, 1990. |
| U112 | All | Aug. 8, 1990. |
| U113 | All | Aug. 8, 1990. |
| U114 | All | Aug. 8, 1990. |
| U115 | All | Aug. 8, 1990. |
| U116 | All | Aug. 8, 1990. |
| U117 | All | Aug. 8, 1990. |
| U118 | All | Aug. 8, 1990. |
| U119 | All | Aug. 8, 1990. |
| U120 | All | Aug. 8, 1990. |
| U121 | All | Aug. 8, 1990. |

| | | |
|------|---------------|---------------|
| U122 | All | Aug. 8, 1990. |
| U123 | All | Aug. 8, 1990. |
| U124 | All | Aug. 8, 1990. |
| U125 | All | Aug. 8, 1990. |
| U126 | All | Aug. 8, 1990. |
| U127 | All | Aug. 8, 1990. |
| U128 | All | Aug. 8, 1990. |
| U129 | All | Aug. 8, 1990. |
| U130 | All | Aug. 8, 1990. |
| U131 | All | Aug. 8, 1990. |
| U132 | All | Aug. 8, 1990. |
| U133 | All | Aug. 8, 1990. |
| U134 | All | Aug. 8, 1990. |
| U135 | All | Aug. 8, 1990. |
| U136 | Wastewater | Aug. 8, 1990. |
| U136 | Nonwastewater | May 8, 1992. |
| U137 | All | Aug. 8, 1990. |
| U138 | All | Aug. 8, 1990. |

| | | |
|------|---------------|---------------|
| U140 | All | Aug. 8, 1990. |
| U141 | All | Aug. 8, 1990. |
| U142 | All | Aug. 8, 1990. |
| U143 | All | Aug. 8, 1990. |
| U144 | All | Aug. 8, 1990. |
| U145 | All | Aug. 8, 1990. |
| U146 | All | Aug. 8, 1990. |
| U147 | All | Aug. 8, 1990. |
| U148 | All | Aug. 8, 1990. |
| U149 | All | Aug. 8, 1990. |
| U150 | All | Aug. 8, 1990. |
| U151 | Wastewater | Aug. 8, 1990. |
| U151 | Nonwastewater | May 8, 1992. |
| U152 | All | Aug. 8, 1990. |
| U153 | All | Aug. 8, 1990. |
| U154 | All | Aug. 8, 1990. |
| U155 | All | Aug. 8, 1990. |
| U156 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U157 | All | Aug. 8, 1990. |
| U158 | All | Aug. 8, 1990. |
| U159 | All | Aug. 8, 1990. |
| U160 | All | Aug. 8, 1990. |
| U161 | All | Aug. 8, 1990. |
| U162 | All | Aug. 8, 1990. |
| U163 | All | Aug. 8, 1990. |
| U164 | All | Aug. 8, 1990. |
| U165 | All | Aug. 8, 1990. |
| U166 | All | Aug. 8, 1990. |
| U167 | All | Aug. 8, 1990. |
| U168 | All | Aug. 8, 1990. |
| U169 | All | Aug. 8, 1990. |
| U170 | All | Aug. 8, 1990. |
| U171 | All | Aug. 8, 1990. |
| U172 | All | Aug. 8, 1990. |
| U173 | All | Aug. 8, 1990. |
| U174 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U176 | All | Aug. 8, 1990. |
| U177 | All | Aug. 8, 1990. |
| U178 | All | Aug. 8, 1990. |
| U179 | All | Aug. 8, 1990. |
| U180 | All | Aug. 8, 1990. |
| U181 | All | Aug. 8, 1990. |
| U182 | All | Aug. 8, 1990. |
| U183 | All | Aug. 8, 1990. |
| U184 | All | Aug. 8, 1990. |
| U185 | All | Aug. 8, 1990. |
| U186 | All | Aug. 8, 1990. |
| U187 | All | Aug. 8, 1990. |
| U188 | All | Aug. 8, 1990. |
| U189 | All | Aug. 8, 1990. |
| U190 | All | June 8, 1989. |
| U191 | All | Aug. 8, 1990. |
| U192 | All | Aug. 8, 1990. |
| U193 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U194 | All | June 8, 1989. |
| U196 | All | Aug. 8, 1990. |
| U197 | All | Aug. 8, 1990. |
| U200 | All | Aug. 8, 1990. |
| U201 | All | Aug. 8, 1990. |
| U203 | All | Aug. 8, 1990. |
| U204 | All | Aug. 8, 1990. |
| U205 | All | Aug. 8, 1990. |
| U206 | All | Aug. 8, 1990. |
| U207 | All | Aug. 8, 1990. |
| U208 | All | Aug. 8, 1990. |
| U209 | All | Aug. 8, 1990. |
| U210 | All | Aug. 8, 1990. |
| U211 | All | Aug. 8, 1990. |
| U213 | All | Aug. 8, 1990. |
| U214 | All | Aug. 8, 1990. |
| U215 | All | Aug. 8, 1990. |
| U216 | All | Aug. 8, 1990. |

| | | |
|------|-----|---------------|
| U217 | All | Aug. 8, 1990. |
| U218 | All | Aug. 8, 1990. |
| U219 | All | Aug. 8, 1990. |
| U220 | All | Aug. 8, 1990. |
| U221 | All | June 8, 1989. |
| U222 | All | Aug. 8, 1990. |
| U223 | All | June 8, 1989. |
| U225 | All | Aug. 8, 1990. |
| U226 | All | Aug. 8, 1990. |
| U227 | All | Aug. 8, 1990. |
| U228 | All | Aug. 8, 1990. |
| U234 | All | Aug. 8, 1990. |
| U235 | All | June 8, 1989. |
| U236 | All | Aug. 8, 1990. |
| U237 | All | Aug. 8, 1990. |
| U238 | All | Aug. 8, 1990. |
| U239 | All | Aug. 8, 1990. |
| U240 | All | Aug. 8, 1990. |

| | | |
|------|-------------------------------|----------------|
| U243 | All | Aug. 8, 1990. |
| U244 | All | Aug. 8, 1990. |
| U246 | All | Aug. 8, 1990. |
| U247 | All | Aug. 8, 1990. |
| U248 | All | Aug. 8, 1990. |
| U249 | All | Aug. 8, 1990. |
| U271 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U271 | All others | July 8, 1996. |
| U277 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U277 | All others | July 8, 1996. |
| U278 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U278 | All others | July 8, 1996. |
| U279 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U279 | All others | July 8, 1996. |
| U280 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U280 | All others | July 8, 1996. |
| U328 | Mixed with radioactive wastes | June 30, 1994. |
| U328 | All others | Nov. 9, 1992. |

| | | |
|------|-------------------------------|----------------|
| U353 | Mixed with radioactive wastes | June 30, 1994. |
| U353 | All others | Nov. 9, 1992. |
| U359 | Mixed with radioactive wastes | June 30, 1994. |
| U359 | All others | Nov. 9, 1992. |
| U364 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U364 | All others | July 8, 1996. |
| U365 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U365 | All others | July 8, 1996. |
| U366 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U366 | All others | July 8, 1996. |
| U367 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U367 | All others | July 8, 1996. |
| U372 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U372 | All others | July 8, 1996. |
| U373 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U373 | All others | July 8, 1996. |
| U375 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U375 | All others | July 8, 1996. |

| | | |
|------|-------------------------------|---------------|
| U376 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U376 | All others | July 8, 1996. |
| U377 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U377 | All others | July 8, 1996. |
| U378 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U378 | All others | July 8, 1996. |
| U379 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U379 | All others | July 8, 1996. |
| U381 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U381 | All others | July 8, 1996. |
| U382 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U382 | All others | July 8, 1996. |
| U383 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U383 | All others | July 8, 1996. |
| U384 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U384 | All others | July 8, 1996. |
| U385 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U385 | All others | July 8, 1996. |

| | | |
|------|-------------------------------|---------------|
| U386 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U386 | All others | July 8, 1996. |
| U387 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U387 | All others | July 8, 1996. |
| U389 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U389 | All others | July 8, 1996. |
| U390 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U390 | All others | July 8, 1996. |
| U391 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U391 | All others | July 8, 1996. |
| U392 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U392 | All others | July 8, 1996. |
| U393 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U393 | All others | July 8, 1996. |
| U394 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U394 | All others | July 8, 1996. |
| U395 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U395 | All others | July 8, 1996. |

| | | |
|------|-------------------------------|---------------|
| U396 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U396 | All others | July 8, 1996. |
| U400 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U400 | All others | July 8, 1996. |
| U401 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U401 | All others | July 8, 1996. |
| U402 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U402 | All others | July 8, 1996. |
| U403 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U403 | All others | July 8, 1996. |
| U404 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U404 | All others | July 8, 1996. |
| U407 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U407 | All others | July 8, 1996. |
| U409 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U409 | All others | July 8, 1996. |
| U410 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U410 | All others | July 8, 1996. |

| | | |
|------|-------------------------------|---------------|
| U411 | Mixed with radioactive wastes | Apr. 8, 1998. |
| U411 | All others | July 8, 1996. |

^a This table does not include mixed radioactive wastes (from the First, Second, and Third Third rules) which received national capacity variance until May 8, 1992 This table also does not include contaminated soil and debris wastes

^b The standard was revised in the Third Third Final Rule (55 FR 22520, June 1, 1990)

^c The standard was revised in the Third Third Emergency Rule (58 FR 29860, May 24, 1993); the original effective date was August 8, 1990

^d The standard was revised in the Phase II Final Rule (59 FR 47982, Sept 19, 1994); the original effective date was August 8, 1990

^e The standards for selected reactive wastes was revised in the Phase III Final Rule (61 FR 15566, Apr 8, 1996); the original effective date was August 8, 1990

Table 2
Summary of Effective Dates of Land Disposal Restrictions for Contaminated Soil and Debris (CSD)

| Restricted hazardous waste in CSD | Effective date |
|---|-----------------------|
| 1. Solvent-(F001-F005) and dioxin-(F020-F023 and F026-F028) containing soil and debris from CERCLA response or RCRA corrective actions | Nov. 8, 1990. |
| 2. Soil and debris not from CERCLA response or RCRA corrective actions contaminated with less than 1% total solvents (F001-F005) or dioxins (F020-F023 and F026-F028) | Nov. 8, 1988. |
| 3 All soil and debris contaminated with First Third wastes for which treatment standards are based on incineration | Aug. 8, 1990. |
| 4. All soil and debris contaminated with Second Third wastes for which treatment standards are based on incineration | June 8, 1991. |
| 5. All soil and debris contaminated with Third Third wastes or, First or Second Third “soft hammer” wastes which had treatment standards promulgated in the Third Third rule, for which treatment standards are based on incineration, vitrification, or mercury retorting, acid leaching followed by chemical precipitation, or thermal recovery of metals; as well as all inorganic solids debris contaminated with D004-D011 wastes, and all soil and debris contaminated with mixed RCRA/radioactive wastes | May 8, 1992. |
| 6. Soil and debris contaminated with D012-D043, K141-K145, and K147-151 wastes | Dec. 19, 1994. |
| 7. Debris (only) contaminated with F037, F038, K107-K112, K117, K118, K123- | Dec. 19, |

| | |
|--|----------------|
| K126, K131, K132, K136, U328, U353, U359 | 1994 |
| 8. Soil and debris contaminated with K156-K161, P127, P128, P188-P192, P194, P196-P199, P201-P205, U271, U277-U280, U364-U367, U372, U373, U375-U379, U381-U387, U389-U396, U400-U404, U407, and U409-U411 wastes | July 8, 1996. |
| 9. Soil and debris contaminated with K088 wastes | Oct. 8, 1997. |
| 10. Soil and debris contaminated with radioactive wastes mixed with K088, K156-K161, P127, P128, P188-P192, P194, P196-P199, P201-P205, U271, U277-U280, U364-U367, U372, U373, U375-U379, U381-U387, U389-U396, U400-U404, U407, and U409-U411 wastes | April 8, 1998. |
| 11. Soil and debris contaminated with F032, F034, and F035 | May 12, 1997. |
| 12. Soil and debris contaminated with newly identified D004-D011 toxicity characteristic wastes and mineral processing wastes. | Aug. 24, 1998. |
| 13. Soil and debris contaminated with mixed radioactive newly identified D004-D011 characteristic wastes and mineral processing wastes. | May 26, 2000. |

Note: Appendix VII is provided for the convenience of the reader

Appendix VIII to Section 268 — LDR Effective Dates of Injected Prohibited Hazardous Wastes

National Capacity LDR Variances for UIC Wastes^a

| Waste code | Waste category | Effective date |
|---|---|-----------------|
| F001-F005 | All spent F001-F005 solvent containing less than 1 percent total F001-F005 solvent constituents | Aug. 8, 1990. |
| D001 (except High TOC Ignitable Liquids Subcategory) ^c | All | Feb. 10, 1994. |
| D001 (High TOC Ignitable Characteristic Liquids Subcategory) | Nonwastewater | Sept. 19, 1995. |
| D002 ^b | All | May 8, 1992. |
| D002 ^c | All | Feb. 10, 1994. |
| D003 (cyanides) | All | May 8, 1992. |

| | | |
|------------------------------|--|-----------------|
| D003 (sulfides) | All | May 8, 1992. |
| D003 (explosives, reactives) | All | May 8, 1992. |
| D007 | All | May 8, 1992. |
| D009 | Nonwastewater | May 8, 1992. |
| D012 | All | Sept. 19, 1995. |
| D013 | All | Sept. 19, 1995. |
| D014 | All | Sept. 19, 1995. |
| D015 | All | Sept. 19, 1995. |
| D016 | All | Sept. 19, 1995. |
| D017 | All | Sept. 19, 1995. |
| D018 | All, including mixed with radioactive wastes | Apr. 8, 1998. |
| D019 | All, including mixed with radioactive wastes | Apr. 8, 1998. |
| D020 | All, including mixed with radioactive wastes | Apr. 8, 1998. |
| D021 | All, including mixed with radioactive wastes | Apr. 8, 1998. |
| D022 | All, including mixed with radioactive wastes | Apr. 8, 1998. |
| D023 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D024 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D025 | All, including mixed radioactive wastes | Apr. 8, 1998. |

| | | |
|------|---|---------------|
| D026 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D027 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D028 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D029 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D030 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D031 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D032 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D033 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D034 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D035 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D036 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D037 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D038 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D039 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D040 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D041 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D042 | All, including mixed radioactive wastes | Apr. 8, 1998. |
| D043 | All, including mixed radioactive wastes | Apr. 8, 1998. |

| | | |
|---------------|---|---------------|
| F007 | All | June 8, 1991. |
| F032 | All, including mixed radioactive wastes | May 12, 1999. |
| F034 | All, including mixed radioactive wastes | May 12, 1999. |
| F035 | All, including mixed radioactive wastes | May 12, 1999. |
| F037 | All | Nov. 8, 1992. |
| F038 | All | Nov. 8, 1992. |
| F039 | Wastewater | May 8, 1992. |
| K009 | Wastewater | June 8, 1991. |
| K011 | Nonwastewater | June 8, 1991. |
| K011 | Wastewater | May 8, 1992. |
| K013 | Nonwastewater | June 8, 1991. |
| K013 | Wastewater | May 8, 1992. |
| K014 | All | May 8, 1992. |
| K016 (dilute) | All | June 8, 1991. |
| K049 | All | Aug. 8, 1990. |
| K050 | All | Aug. 8, 1990. |
| K051 | All | Aug. 8, 1990. |
| K052 | All | Aug. 8, 1990. |

| | | |
|------|-----|----------------|
| K062 | All | Aug. 8, 1990. |
| K071 | All | Aug. 8, 1990. |
| K088 | All | Jan. 8, 1997. |
| K104 | All | Aug. 8, 1990. |
| K107 | All | Nov. 8, 1992. |
| K108 | All | Nov. 9, 1992. |
| K109 | All | Nov. 9, 1992. |
| K110 | All | Nov. 9, 1992. |
| K111 | All | Nov. 9, 1992. |
| K112 | All | Nov. 9, 1992. |
| K117 | All | June 30, 1995. |
| K118 | All | June 30, 1995. |
| K123 | All | Nov. 9, 1992. |
| K124 | All | Nov. 9, 1992. |
| K125 | All | Nov. 9, 1992. |
| K126 | All | Nov. 9, 1992. |
| K131 | All | June 30, 1995. |
| K132 | All | June 30, 1995. |

| | | |
|------|---|----------------|
| K136 | All | Nov. 9, 1992. |
| K141 | All | Dec. 19, 1994. |
| K142 | All | Dec. 19, 1994. |
| K143 | All | Dec. 19, 1994. |
| K144 | All | Dec. 19, 1994. |
| K145 | All | Dec. 19, 1994. |
| K147 | All | Dec. 19, 1994. |
| K148 | All | Dec. 19, 1994. |
| K149 | All | Dec. 19, 1994. |
| K150 | All | Dec. 19, 1994. |
| K151 | All | Dec. 19, 1994. |
| K156 | All | July 8, 1996. |
| K157 | All | July 8, 1996. |
| K158 | All | July 8, 1996. |
| K159 | All | July 8, 1996. |
| K160 | All | July 8, 1996. |
| K161 | All | July 8, 1996. |
| NA | Newly identified mineral processing wastes from titanium dioxide production and mixed radioactive/newly identified D004-D011 characteristic wastes and mineral processing | May 26, 2000. |

| | | |
|------|---------|---------------|
| | wastes. | |
| P127 | All | July 8, 1996. |
| P128 | All | July 8, 1996. |
| P185 | All | July 8, 1996. |
| P188 | All | July 8, 1996. |
| P189 | All | July 8, 1996. |
| P190 | All | July 8, 1996. |
| P191 | All | July 8, 1996. |
| P192 | All | July 8, 1996. |
| P194 | All | July 8, 1996. |
| P196 | All | July 8, 1996. |
| P197 | All | July 8, 1996. |
| P198 | All | July 8, 1996. |
| P199 | All | July 8, 1996. |
| P201 | All | July 8, 1996. |
| P202 | All | July 8, 1996. |
| P203 | All | July 8, 1996. |
| P204 | All | July 8, 1996. |
| P205 | All | July 8, |

| | | |
|------|-----|---------------|
| | | 1996. |
| U271 | All | July 8, 1996. |
| U277 | All | July 8, 1996. |
| U278 | All | July 8, 1996. |
| U279 | All | July 8, 1996. |
| U280 | All | July 8, 1996. |
| U328 | All | Nov. 9, 1992. |
| U353 | All | Nov. 9, 1992. |
| U359 | All | Nov. 9, 1992. |
| U364 | All | July 8, 1996. |
| U365 | All | July 8, 1996. |
| U366 | All | July 8, 1996. |
| U367 | All | July 8, 1996. |
| U372 | All | July 8, 1996. |
| U373 | All | July 8, 1996. |
| U375 | All | July 8, 1996. |
| U376 | All | July 8, 1996. |
| U377 | All | July 8, 1996. |
| U378 | All | July 8, |

| | | |
|------|-----|---------------|
| | | 1996. |
| U379 | All | July 8, 1996. |
| U381 | All | July 8, 1996. |
| U382 | All | July 8, 1996. |
| U383 | All | July 8, 1996. |
| U384 | All | July 8, 1996. |
| U385 | All | July 8, 1996. |
| U386 | All | July 8, 1996. |
| U387 | All | July 8, 1996. |
| U389 | All | July 8, 1996. |
| U390 | All | July 8, 1996. |
| U391 | All | July 8, 1996. |
| U392 | All | July 8, 1996. |
| U395 | All | July 8, 1996. |
| U396 | All | July 8, 1996. |
| U400 | All | July 8, 1996. |
| U401 | All | July 8, 1996. |
| U402 | All | July 8, 1996. |
| U403 | All | July 8, |

| | | |
|------|-----|---------------|
| | | 1996. |
| U404 | All | July 8, 1996. |
| U407 | All | July 8, 1996. |
| U409 | All | July 8, 1996. |
| U410 | All | July 8, 1996. |
| U411 | All | July 8, 1996. |

^aWastes that are deep well disposed on-site receive a six-month variance, with restrictions effective in November 1990.

^bDeepwell injected D002 liquids with a pH less than 2 must meet the California List treatment standards on August 8, 1990

^cManaged in systems defined in 40 CFR 1446(e) and 146(e) as Class V injection wells, that do not engage in CWA-equivalent treatment before injection.

Note: This table is provided for the convenience of the reader

Appendix IX to Section 268

See 40 CFR 268, Appendix IX

Appendix XI to Part 268 — Metal Bearing Wastes Prohibited From Dilution in a Combustion Unit According to 40 CFR 268.3(c)¹

| Waste code | Waste description |
|------------|---------------------------------------|
| D004 | Toxicity Characteristic for Arsenic. |
| D005 | Toxicity Characteristic for Barium. |
| D006 | Toxicity Characteristic for Cadmium. |
| D007 | Toxicity Characteristic for Chromium. |
| D008 | Toxicity Characteristic for Lead. |
| D009 | Toxicity Characteristic for Mercury. |
| D010 | Toxicity Characteristic for Selenium. |
| D011 | Toxicity Characteristic for Silver. |

| | |
|------|---|
| F006 | Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. |
| F007 | Spent cyanide plating bath solutions from electroplating operations. |
| F008 | Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process. |
| F009 | Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process. |
| F010 | Quenching bath residues from oil baths from metal treating operations where cyanides are used in the process. |
| F011 | Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations. |
| F012 | Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process. |
| F019 | Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum car washing when such phosphating is an exclusive conversion coating process. |
| K002 | Wastewater treatment sludge from the production of chrome yellow and orange pigments. |
| K003 | Wastewater treatment sludge from the production of molybdate orange pigments. |
| K004 | Wastewater treatment sludge from the production of zinc yellow pigments. |
| K005 | Wastewater treatment sludge from the production of chrome green pigments. |
| K006 | Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated). |
| K007 | Wastewater treatment sludge from the production of iron blue pigments. |
| K008 | Oven residue from the production of chrome oxide green pigments. |
| K061 | Emission control dust/sludge from the primary production of steel in electric furnaces. |
| K069 | Emission control dust/sludge from secondary lead smelting. |
| K071 | Brine purification muds from the mercury cell processes in chlorine production, where separately prepurified brine is not used. |
| K100 | Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting. |
| K106 | Sludges from the mercury cell processes for making chlorine. |
| P010 | Arsenic acid H_3AsO_4 |

| | |
|------|---|
| P011 | Arsenic oxide As_2O_5 |
| P012 | Arsenic trioxide |
| P013 | Barium cyanide |
| P015 | Beryllium |
| P029 | Copper cyanide $\text{Cu}(\text{CN})$ |
| P074 | Nickel cyanide $\text{Ni}(\text{CN})_2$ |
| P087 | Osmium tetroxide |
| P099 | Potassium silver cyanide |
| P104 | Silver cyanide |
| P113 | Thallic oxide |
| P114 | Thallium (I) selenite |
| P115 | Thallium (I) sulfate |
| P119 | Ammonium vanadate |
| P120 | Vanadium oxide V_2O_5 |
| P121 | Zinc cyanide. |
| U032 | Calcium chromate. |
| U145 | Lead phosphate. |
| U151 | Mercury. |
| U204 | Selenious acid. |
| U205 | Selenium disulfide. |
| U216 | Thallium (I) chloride. |
| U217 | Thallium (I) nitrate. |

¹ A combustion unit is defined as any thermal technology subject to Section 264, subsection part O; Section 265, subsection O; and/or 266, subsection H

Section 270.

ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

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- § 270.7 Arkansas General Requirements for Permit Applications

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- § 270.24 Specific Part B information requirements for process vents
- § 270.25 Specific Part B information requirements for equipment
- § 270.26 Special Part B information requirements for drip pads
- § 270.27 Disclosure requirements
- § 270.28 [Reserved]
- § 270.29 Permit denial

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- § 270.30 Conditions applicable to all permits
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- § 270.40 Transfer of permits
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- § 270.50 Duration of permits
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- § 270.60 Permits by rule
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Applying for a RAP

- § 270.95 How do I apply for a RAP?
- § 270.100 Who must obtain a RAP?
- § 270.105 Who must sign the application and any required reports for a RAP?
- § 270.110 What must I include in my application for a RAP?
- § 270.115 What if I want to keep this information confidential?
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Getting a RAP Approved

- § 270.130 What is the process for approving or denying my application for a RAP?
- § 270.135 What must the Director include in a draft RAP?
- § 270.140 What else must the Director prepare in addition to the draft RAP or notice of intent to deny?
- § 270.145 What are the procedures for public comment on the draft RAP or notice of intent to deny?
- § 270.150 How will the Director make a final decision on my RAP application?
- § 270.155 May the decision to approve or deny my RAP application be administratively appealed?

§ 270.160 When does my RAP become effective?

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How May My RAP be Modified, Revoked and Reissued, or Terminated?

§ 270.170 After my RAP is issued, how may it be modified, revoked and reissued, or terminated?

§ 270.175 For what reasons may the Director choose to modify my final RAP?

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§ 270.185 For what reasons may the Director choose to terminate my final RAP, or deny my renewal application?

§ 270.190 May the decision to approve or deny a modification, revocation and reissuance, or termination of my RAP be administratively appealed?

§ 270.195 When will my RAP expire?

§ 270.200 How may I renew my RAP if it is expiring?

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§ 270.225 What must the State or EPA Region report about noncompliance with RAPs?
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§ 270.230 May I perform remediation waste management activities under a RAP at a location removed from the area where the remediation wastes originated?

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§ 270.235 Options for incinerators and cement and lightweight aggregate kilns to minimize emissions from startup, shutdown, and malfunction events

Subsection J—RCRA Standardized Permits for Storage and Treatment Units

General Information About Standardized Permits

§ 270.250 What is a RCRA standardized permit?

§ 270.255 Who is eligible for a standardized permit?

§ 270.260 What requirements of Section 270 apply to a standardized permit?

Applying for a Standardized Permit

§ 270.270 How do I apply for a standardized permit?

§ 270.275 What information must I submit to the permitting agency to support my standardized permit application?

§ 270.280 What are the certification requirements?

Information That Must Be Kept at Your Facility

§ 270.290 What general types of information must I keep at my facility?

§ 270.300 What container information must I keep at my facility?

§ 270.305 What tank information must I keep at my facility?

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Modifying a Standardized Permit

§ 270.320 How do I modify my RCRA standardized permit?

Subsection A -- General Information

§ 270.1 Purpose and scope of these rules

(a) Coverage. (1) These permit rules establish provisions for the Hazardous Waste Permit Program under Subtitle C of the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (RCRA), (Pub. L. 94-580, as amended by Pub. L. 95-609 and by Pub. L. 96-482; 42 U.S.C. 6091 et seq.). They apply to EPA and to approved States to the extent provided in 40 CFR part 271.

(2) The rules in this Section cover basic State and federal permitting requirements, such as application requirements, standard permit conditions, and monitoring and reporting requirements. These rules are part of a regulatory scheme implementing the Arkansas Hazardous Waste Management Act and the federal RCRA set forth in different parts of this document and the Code of Federal Regulations. The following chart indicates where the rules implementing RCRA appear in the CFR and this Rule.

| Section of RCRA | Coverage | Final regulation | Final rule |
|-----------------|---|-------------------------------------|--|
| Subtitle C | Overview and definitions | 40 CFR part 260 | RegRule 23 § 260 |
| 3001 | Identification and listing of hazardous waste | 40 CFR part 261 | RegRule 23 § 261 |
| 3002 | Generators of hazardous waste | 40 CFR part 262 | RegRule 23 § 262 |
| 3003 | Transporters of hazardous waste | 40 CFR part 263 | RegRule 23 § 263 |
| 3004 | Standards for HWM facilities | 40 CFR parts 264, 265, 266, and 267 | RegRule 23 §§ 264, 265, and 266 |
| 3005 | Permit requirements for HWM facilities | 40 CFR parts 270 and 124 | RegRule 23 §270, and RegRule No. 8 |

| | | | |
|------|--|--|------------------------------|
| 3006 | Guidelines for State programs | 40 CFR part 271 | |
| 3010 | Preliminary notification of HWM activity | (public notice) 45 <i>FR</i> 12746 February 26, 1980 | Reg Rule 23 § 262 |

(3) Technical rules. The Hazardous Waste Management (hereafter HWM) permit program has separate additional Rules that contain technical requirements. These separate rules are used by permit issuing authorities to determine what requirements must be placed in permits if they are issued. These separate rules are located in Sections 264, 266, 267, and 268 of this rule.

(b) Overview of the HWM Permit Program. Not later than 90 days after the promulgation or revision of rules in Section 261 of this rule (identifying and listing hazardous wastes) generators and transporters of hazardous waste, and owners or operators of hazardous waste treatment, storage, or disposal facilities may be required to file a notification of that activity under RCRA section 3010. Treatment, storage, and disposal facilities (TSDs) that are otherwise subject to permitting under RCRA and that meet the criteria in paragraph (b)(1), or paragraph (b)(2) of this section, may be eligible for a standardized permit under Subsection J of this Section. Six months after the initial promulgation of the Section 261 rules, treatment, storage, or disposal of hazardous waste by any person who has not applied for or received an HWM permit is prohibited. An HWM permit application consists of two parts, *Part A* (see § 270.13) and *Part B* (see § 270.14 and applicable sections in §§ 270.15 through 270.29). For “existing HWM facilities,” the requirement to submit an application is satisfied by submitting only Part A of the permit application until the date the Director sets for submitting Part B of the application. (Part A consists of Forms 1 and 3 of the Consolidated Permit Application Forms.) Timely submission of both notification under section 3010 and Part A qualifies owners and operators of existing HWM facilities (who are required to have a permit) for interim status under the Arkansas Hazardous Waste Management Act (A.C.A. §§ 8-7-201 *et seq.*) Facility owners and operators with interim status are treated as having been issued a permit until EPA or a State with either interim authorization for Phase II or final authorization under 40 CFR part 271 makes a final determination on the permit application. Facility owners and operators with interim status must comply with interim status standards set forth at 40 CFR part 265 and 266 or with the analogous provisions at Sections 265 and 266 of this Rule. Facility owners and operators with interim status are not relieved from complying with other State requirements. For existing HWM facilities, the Director shall set a date, giving at least six months notice, for submission of Part B of the application. There is no form for Part B of the application; rather, Part B must be submitted in narrative form and contain the information set forth in the applicable sections of §§ 270.14 through 270.29. Owners or operators of new HWM facilities must submit parts A and B of the permit application at least 180 days before physical construction is expected to commence.

(1) The facility generates hazardous waste and then non-thermally treats or stores hazardous waste on-site in tanks, containers, or containment buildings; or

(2) The facility receives hazardous waste generated off-site by a generator under the same ownership as the receiving facility, and then stores or non-thermally treats the hazardous waste in containers, tanks, or containment buildings.

(c) Scope of the RCRA permit requirement. RCRA requires a permit for the “treatment,” “storage,” and “disposal” of any “hazardous waste” as identified or listed in § 261 of this rule. The terms “treatment,” “storage,” “disposal,” and “hazardous waste” are defined in § 270.2. Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit. Owners and operators of surface impoundments, landfills, land treatment units, and waste pile units that received waste after July 26, 1982, or that certified closure (according to § 265.115 of this rule) after January 26, 1983, must have post-closure permits, unless they demonstrate closure by removal or decontamination as provided under § 270.1(c)(5) and (6), or obtain an enforceable document in lieu of a post-closure permit, as provided under paragraph (c)(7) of this section. If a post-closure permit is required, the permit must address applicable Section 264 groundwater monitoring, unsaturated zone monitoring, corrective action, and post-closure care requirements of this chapter. The denial of a permit for the active life of a hazardous waste management facility or unit does not affect the requirement to obtain a post-closure permit under this section.

(1) Specific inclusions. Owners and operators of certain facilities require HWM permits as well as permits under other programs for certain aspects of the facility operation.

HWM permits are required for:

(i) Injection wells that dispose of hazardous waste, and associated surface facilities that treat, store or dispose of hazardous waste, (See § 270.64). However, the owner and operator with a UIC permit in a State with an approved or promulgated UIC program, will be deemed to have an HWM permit for the injection well itself if they comply with the requirements of § 270.60(b) (permit-by-rule for injection wells).

(ii) Treatment, storage, or disposal of hazardous waste at facilities requiring an NPDES permit. However, the owner and operator of a publicly owned treatment works receiving hazardous waste will be deemed to have an HWM permit for that waste if they comply with the requirements of § 270.60(c) (permit-by-rule for POTWs).

(iii) Barges or vessels that dispose of hazardous waste by ocean disposal and onshore hazardous waste treatment or storage facilities associated with an ocean disposal operation. However, the owner and operator will be deemed to have an HWM permit for ocean disposal from the barge or vessel itself if they comply with the requirements of § 270.60(a) (permit-by-rule for ocean disposal barges and vessels).

(2) Specific exclusions and exemptions. The following persons are among those who are not required to obtain an HWM permit:

(i) Generators who accumulate hazardous waste on-site in compliance with all of the conditions for exemption provided in § 262.14, § 262.15, § 262.16, and § 262.17.

Generators must be in full compliance with all time frames and technical requirements provided in § 262.34 of this Rule in order to utilize the on-site treatment exemption for generators.

(ii) Farmers who dispose of hazardous waste pesticides from their own use as provided in § 262.70 of this rule;

(iii) Persons who own or operate facilities solely for the treatment, storage or disposal of hazardous waste excluded from rules under this section by § 261.4 or 262.14 (very small quantity generator exemption).

(iv) Owners or operators of totally enclosed treatment facilities as defined in § 260.10.

(v) Owners and operators of elementary neutralization units or wastewater treatment units as defined in § 260.10.

(vi) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of § 262.30 at a transfer facility for a period of ten days or less.

(vii) Persons adding absorbent material to waste in a container (as defined in § 260.10 of this rule) and persons adding waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and §§ 264.17(b), 264.171, and 264.172 of this rule are complied with.

(viii) Universal waste handlers and universal waste transporters (as defined in § 260.10) managing the wastes listed below. These handlers are subject to regulation under § 273.

(A) Batteries as described in § 273.2;

(B) Pesticides as described in § 273.3 of this rule;

(C) Mercury-containing devices as described in § 273.4 of this rule;

(D) Lamps as described in § 273.5 of this rule; and

(E) *Consumer electronic items as described in § 273.6 of this rule.*

(3) Further exclusions. (i) A person is not required to obtain a HWM permit for treatment or containment activities taken during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(D) An immediate threat to human health, public safety, property, or the environment from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in § 260.10.

(ii) Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part for those activities.

(iii) In the case of emergency responses involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition.

(4) Permits for less than an entire facility. DEQ may issue or deny a permit for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The interim status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

(5) Closure by removal. Owners/operators of surface impoundments, land treatment units, and waste piles closing by removal or decontamination under Section 265 standards must obtain a post-closure permit unless they can demonstrate to the Director that the closure met the standards for closure by removal or decontamination in § 264.228, § 264.280(e), or § 264.258, respectively. The demonstration may be made in the following ways:

(i) If the owner/operator has submitted a Part B application for a post-closure permit, the owner/operator may request a determination, based on information contained in the application, that Section 264 closure by removal standards were met. If the Director believes that Section 264 standards were met, he/she will notify the public of this proposed decision, allow for public comment, and reach a final determination according

to the procedures in paragraph (c)(6) of this section.

(ii) If the owner/operator has not submitted a Part B application for a post-closure permit, the owner/operator may petition the Director for a determination that a post-closure permit is not required because the closure met the applicable Section 264 closure standards.

(A) The petition must include data demonstrating that closure by removal or decontamination standards were met, or it must demonstrate that the unit closed under State requirements that met or exceeded the applicable Section 264 closure-by-removal standard.

(B) The Director shall approve or deny the petition according to the procedures outlined in paragraph (c)(6) of this section.

(6) Procedures for closure equivalency determination. (i) If a facility owner/operator seeks an equivalency demonstration under § 270.1(c)(5), the Director will provide the public, through a newspaper notice, the opportunity to submit written comments on the information submitted by the owner/operator within 30 days from the date of the notice. The Director will also, in response to a request or at his/her own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning the equivalence of the Section 265 closure to a Section 264 closure. The Director will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.)

(ii) The Director will determine whether the Section 264 closure met Section 264 closure by removal or decontamination requirements within 90 days of its receipt. If the Director finds that the closure did not meet the applicable Section 264 standards, he/she will provide the owner/operator with a written statement of the reasons why the closure failed to meet these standards. The owner/operator may submit additional information in support of an equivalency demonstration within 30 days after receiving such written statement. The Director will review any additional information submitted and make a final determination within 60 days.

(iii) If the Director determines that the facility did not close in accordance with Section 264 closure by removal standards, the facility is subject to post-closure permitting requirements.

(7) Enforceable documents for post-closure care. At the discretion of the Director, an owner or operator may obtain, in lieu of a post-closure permit, an enforceable document imposing the requirements of § 265.121. “Enforceable document” means an order, a plan, or other document issued by EPA or by the Division under an authority that meets the requirements of 40 CFR 271.16(e) including, but not limited to, a corrective action order issued by EPA under section 3008(h), a CERCLA remedial action, or a closure or post-closure plan.

§ 270.2 Definitions

The following definitions apply to Section 270. Terms not defined in this section have the meaning given by Section 260.10.

“**Administrator**” means the Administrator of the United States Environmental Protection

Agency, or an authorized representative.

“Application” means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in approved States, including any approved modifications or revisions. Application also includes the information required by the Director under §§ 270.14 through 270.29 (contents of Part B of the hazardous waste permit application).

“Approved program or approved State” means a State which has been approved or authorized by EPA under 40 CFR part 271.

“Aquifer” means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

“Closure” means the act of securing a Hazardous Waste Management facility pursuant to the requirements of Section 264 of this rule.

“Component” means any constituent part of a unit or any group of constituent parts of a unit which are assembled to perform a specific function (e.g., a pump seal, pump, kiln liner, kiln thermocouple).

“Corrective Action Management Unit” or **“CAMU”** means an area within a facility that is designated by the Director under § 264 Subsection S for the purpose of implementing corrective action requirements under § 264.101, or the Arkansas Remedial Action Trust Fund Act. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

“CWA” means the federal Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 92-217 and Pub. L. 95-576; 33 U.S.C. 1251 et seq.

“Director” means the Director of the Division of Environmental Quality, or an authorized representative. When the Division has not yet received federal authorization for a particular rule and there is an EPA administered program, “Director” means the Regional Administrator. When there is an approved State program, “Director” normally means the State Director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State program. In such cases, the term “Director” means the Regional Administrator and not the State Director.

“Disposal” means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground water.

“Disposal facility” means a facility or part of a facility at which hazardous waste is intentionally placed into or on the land or water, and at which hazardous waste will remain after closure. The term *disposal facility* does not include a corrective action management unit into which remediation wastes are placed.

“Draft permit” means a document prepared under 40 CFR 124.6 indicating the Director’s tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a permit. A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in § 124.5, are types of draft permits. A denial of a request for modification, revocation and reissuance, or termination, as discussed in § 124.5 is not a “draft permit.” A proposed permit is not a draft permit.

“Elementary neutralization unit” means a device which:

- (a) Is used for neutralizing wastes only because they exhibit the corrosivity characteristic

defined in § 261.22 of this rule, or are listed in Subsection D of Section 261 of this rule only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in § 260.10 of this rule.

“Emergency permit” means an HWM permit issued in accordance with § 270.61.

“Environmental Protection Agency (EPA)” means the United States Environmental Protection Agency.

“EPA” means the United States Environmental Protection Agency.

“Facility mailing list” means the mailing list for a facility maintained by the Division in accordance with 40 CFR 124.10(c)(1)(ix) and § 270.7 of this rule.

“Facility or activity” means any HWM facility or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the RCRA program.

“Federal, State and local approvals or permits necessary to begin physical construction” means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations, rules or ordinances.

“Final authorization” means approval by EPA of a State program which has met the requirements of section 3006(b) of RCRA and the applicable requirements of 40 CFR Part 271, Subpart A.

“Functionally equivalent component” means a component which performs the same function or measurement and which meets or exceeds the performance specifications of another component.

“Generator” means any person, by site location, whose act, or process produces “hazardous waste” identified or listed in Section 261 of this rule.

“Ground water” means water below the land surface in a zone of saturation.

“Hazardous Waste Management Facility (HWM facility)” means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combinations of them).

“HWM facility” means Hazardous Waste Management facility.

“Injection well” means a well into which fluids are being injected.

“In operation” means a facility which is treating, storing, or disposing of hazardous waste.

“Interim authorization” means approval by EPA of a State hazardous waste program which has met the requirements of section 3006(g)(2) of RCRA and applicable requirements of 40 CFR part 271, subpart B.

“Major facility” means any facility or activity classified as such by the Director, or, in the case of approved State programs, the Director in conjunction with the State Director.

“Manifest” means the shipping document originated and signed by the generator which contains the information required by Subsection B of Section 262.

“National Pollutant Discharge Elimination System” means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the federal Clean Water Act. The term includes an approved program.

“NPDES” means National Pollutant Discharge Elimination System.

“New HWM facility” means a Hazardous Waste Management facility which began operation or for which construction commenced after November 19, 1980.

“Off-site” means any site which is not on-site.

“On-site” means on the same or geographically contiguous property which may be divided by public or private right(s)-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right(s)-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which the person controls and to which the public does not have access, is also considered on-site property.

“Permit” means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of this Section and 40 CFR Parts 271 and 124. Permit includes permit by rule (§ 270.60), emergency permit (§ 270.61) and standardized permit (subsection J of this section). Permit does not include RCRA interim status (subsection G of this section), or any permit which has not been the subject of final agency action, such as a draft permit or a proposed permit.

“Permit-by-rule” means a provision of these rules stating that a facility or activity is deemed to have an HWM permit if it meets the requirements of the provision.

“Phase I” means that phase of the Federal hazardous waste management program commencing on the effective date of the last of the following to be initially promulgated: 40 CFR Parts 260, 261, 262, 263, 265, 270 and 271. Promulgation of Phase I refers to promulgation of the rules necessary for Phase I to begin.

“Phase II” means that phase of Federal hazardous waste management program commencing on the effective date of the first subpart of 40 CFR part 264, subparts F through R to be initially promulgated. Promulgation of Phase II refers to promulgation of the rules necessary for Phase II to begin.

“Physical construction” means excavation, movement of earth, erection of forms or structures, or similar activity to prepare an HWM facility to accept hazardous waste.

“POTW” means publicly owned treatment works.

“Publicly owned treatment works (POTW)” means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a State or municipality. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

“RCRA” means the federal Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95-609 and Pub. L. 96-482, 42 U.S.C. 6901 et seq.)

“Regional Administrator” means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency [EPA Region VI] or the authorized representative of the Regional Administrator.

“Remedial Action Plan” (RAP) means a special form of RCRA permit that a facility owner or operator may obtain instead of a permit issued under §§ 270.3 through 270.66, to authorize the treatment, storage or disposal of hazardous remediation waste (as defined in § 260.10 of this rule) at a remediation waste management site.

“Schedule of compliance” means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the Act and rules.

“SDWA” means the federal Safe Drinking Water Act (Pub. L. 95-523, as amended by Pub. L. 95-1900; 42 U.S.C. 3001 et seq.).

“Standardized permit” means a RCRA permit issued under 40 CFR Part 124, subsection G, Rule No. 8, and Subsection J of this Section authorizing the facility owner or operator to manage

hazardous waste. The standardized permit may have two parts: a uniform portion issued in all cases and a supplemental portion issued at the Director's discretion.

"State" means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"State Director" means the chief administrative officer of any State agency operating an approved program, or the delegated representative of the State Director. If responsibility is divided among two or more State agencies, State Director means the chief administrative officer of the State agency authorized to perform the particular procedure or function to which reference is made.

"State/EPA Agreement" means an agreement between the Regional Administrator and the Arkansas Division of Environmental Quality which coordinates EPA and State activities, responsibilities and programs.

"Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere.

"Transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water.

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such wastes, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

"UIC" means the Underground Injection Control Program under Part C of the federal Safe Drinking Water Act, including an approved program.

"Underground injection" means a well injection.

"Underground source of drinking water (USDW)" means an aquifer or its portion:

- (a)(1) Which supplies any public water system; or
 - (2) Which contains a sufficient quantity of ground water to supply a public water system;
- and

- (i) Currently supplies drinking water for human consumption; or
- (ii) Contains fewer than 10,000 mg/l total dissolved solids; and

- (b) Which is not an exempted aquifer.

"USDW" means underground source of drinking water.

"Wastewater treatment unit" means a device which:

- (a) Is part of a wastewater treatment facility which is subject to regulation under either section 402 or 307(b) of the federal Clean Water Act; and

(b) Receives and treats or stores an influent wastewater which is a hazardous waste as defined in § 261.3 of this rule, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in § 261.3 of this rule, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in § 261.3 of this rule; and

- (c) Meets the definition of tank or tank system in § 260.10 of this rule.

§ 270.3 Considerations under Federal law

The following is a list of Federal laws that may apply to the issuance of permits under these rules. When any of these laws is applicable, its procedures must be followed. When the applicable law requires consideration or adoption of particular permit conditions or requires the denial of a permit, those requirements also must be followed.

(a) *The Wild and Scenic Rivers Act*. 16 U.S.C. 1273 et seq. Section 7 of the Act prohibits the Regional Administrator or Director from assisting by license or otherwise the construction of any water resources project that would have a direct, adverse effect on the values for which a national wild and scenic river was established.

(b) *The National Historic Preservation Act of 1966*. 16 U.S.C. 470 et seq. Section 106 of the Act and implementing regulations (36 CFR part 800) require the Regional Administrator or Director, before issuing a license, to adopt measures when feasible to mitigate potential adverse effects of the licensed activity and properties listed or eligible for listing in the National Register of Historic Places. The Act's requirements are to be implemented in cooperation with State Historic Preservation Officers and upon notice to, and when appropriate, in consultation with the Advisory Council on Historic Preservation.

(c) *The Endangered Species Act*. 16 U.S.C. 1531 et seq. Section 7 of the Act and implementing regulations (50 CFR part 402) require the Regional Administrator or Director to ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized by EPA or the Division is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat.

(d) *The Coastal Zone Management Act*. 16 U.S.C. 1451 et seq. Section 307(c) of the Act and implementing regulations (15 CFR part 930) prohibit EPA or the Division from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State Coastal Zone Management program, and the State or its designated agency concurs with the certification (or the Secretary of Commerce overrides the State's nonconcurrence).

(e) *The Fish and Wildlife Coordination Act*. 16 U.S.C. 661 et seq. requires that the Regional Administrator or Director, before issuing a permit proposing or authorizing the impoundment (with certain exemptions), diversion, or other control or modification of any body of water, consult with the appropriate State agency exercising jurisdiction over wildlife resources to conserve those resources.

(f) Executive orders. [Reserved]

§ 270.4 Effect of a permit

(a) (1) Compliance with an HWM permit during its term constitutes compliance, for purposes of enforcement, with subtitle C of RCRA except for those requirements not included in the permit which:

- (i) Become effective by statute;
- (ii) Are promulgated under Section 268 of this rule or 40 CFR Part 268 restricting the placement of hazardous wastes in or on the land; or
- (iii) Are promulgated under Section 264 of this rule regarding leak detection systems for new and replacement surface impoundment, waste pile, and landfill units, and lateral expansions of surface impoundment, waste pile, and landfill units. The leak detection

system requirements include double liners, CQA programs, monitoring, action leakage rates, and response action plans, and will be implemented through the procedures of § 270.42 Class 1* permit modifications.

(iv) Are promulgated under Subsections AA, BB, or CC of Section 265 of this Rule limiting air emissions.

(2) A permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in §§ 270-41 and 270.43, or the permit may be modified upon the request of the permittee as set forth in § 270.42.

(b) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(c) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or rules.

§ 270.5 Noncompliance and program reporting by the Director

The Director shall prepare quarterly and annual reports as detailed below. When the State is the permit-issuing authority, the Director shall submit any reports required under this section to the Regional Administrator. When EPA is the permit-issuing authority, the Regional Administrator shall submit any report required under this section to EPA Headquarters. For purposes of this section only, HWM permittees shall include interim status facilities, when appropriate.

(a) Quarterly reports. The Director shall submit quarterly narrative reports for major facilities as follows:

(1) Format. The report shall use the following format:

(i) Information on noncompliance for each facility;

(ii) Alphabetize by permittee name. When two or more permittees have the same name, the lowest permit number shall be entered first;

(iii) For each entry on the list, include the following information in the following order:

(A) Name, location, and permit number of the noncomplying permittee.

(B) A brief description and date of each instance of noncompliance for that permittee. Instances of noncompliance may include one or more of the kinds set forth in paragraph (a)(2) of this section. When a permittee has noncompliance of more than one kind, combine the information into a single entry for each such permittee.

(C) The date(s) and a brief description of the action(s) taken by the Director to ensure compliance.

(D) Status of the instance(s) of noncompliance with the date of the review of the status or the date of resolution.

(E) Any details which tend to explain or mitigate the instance(s) of noncompliance.

(2) Instances of noncompliance to be reported. Any instances of noncompliance within the following categories shall be reported in successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.

(i) Failure to complete construction elements. When the permittee has failed to complete, by the date specified in the permit, an element of a compliance schedule involving either planning for construction (for example, award of a contract, preliminary

plans), or a construction step (for example, begin construction, attain operation level); and the permittee has not returned to compliance by accomplishing the required element of the schedule within 30 days from the date a compliance schedule report is due under the permit.

(ii) Modifications to schedules of compliance. When a schedule of compliance in the permit has been modified under § 270.41 or § 270.42 because of the permittee's noncompliance.

(iii) Failure to complete or provide compliance schedule or monitoring reports. When the permittee has failed to complete or provide a report required in a permit compliance schedule (for example, progress report or notice of noncompliance or compliance) or a monitoring report; and the permittee has not submitted the complete report within 30 days from the date it is due under the permit for compliance schedules, or from the date specified in the permit for monitoring reports.

(iv) Deficient reports. When the required reports provided by the permittee are so deficient as to cause misunderstanding by the Director and thus impede the review of the status of compliance.

(v) Noncompliance with other permit requirements. Noncompliance shall be reported in the following circumstances:

(A) Whenever the permittee has violated a permit requirement (other than reported under paragraph (a)(2)(i) or (ii) of this section), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the permit; or

(B) When the Director determines that a pattern of noncompliance exists for a major facility permittee over the most recent four consecutive reporting periods. This pattern includes any violation of the same requirement in two consecutive reporting periods, and any violation of one or more requirements in each of four consecutive reporting periods; or

(C) When the Director determines significant permit non-compliance or other significant event has occurred such as a fire or explosion or migration of fluids into a USDW.

(vi) All other. Statistical information shall be reported quarterly on all other instances of noncompliance by major facilities with permit requirements not otherwise reported under paragraph (a) of this section.

(b) Annual reports — (1) Annual noncompliance report. Statistical reports shall be submitted by the Director on non-major HWM permittees indicating the total number reviewed, the number of noncomplying nonmajor permittees, the number of enforcement actions, and number of permit modifications extending compliance deadlines. The statistical information shall be organized to follow the types of noncompliance listed in paragraph (a) of this section.

(2) In addition to the annual noncompliance report, the Director shall prepare a "program report" which contains information (in a manner and form prescribed by the Administrator) on generators and transporters and the permit status of regulated facilities. The Director shall also include, on a biennial basis, summary information on the quantities and types of hazardous wastes generated, transported, treated, stored and disposed during the preceding odd-numbered year. This summary information shall be reported in a manner and form prescribed by the Administrator and shall be reported according to EPA characteristics and lists of hazardous wastes at Section 261 of this rule.

(c) Schedule. (1) For all quarterly reports. On the last working day of May, August, November, and February, the Director shall submit to the Regional Administrator information concerning noncompliance with HWM permit requirements by major facilities in the State in accordance with the following schedule. The Regional Administrator shall prepare and submit information for EPA-issued permits to EPA Headquarters in accordance with the same schedule.

Quarters Covered by Reports on Noncompliance by Major Dischargers

[Date for completion of reports]

| | |
|--|-------------|
| January, February, March ¹ | May 31 |
| April, May, June ¹ | August 31 |
| July, August, September ¹ | November 30 |
| October, November, December ¹ | February 28 |

¹Reports must be made available to the public for inspection and copying on this date.

§ 270.6 References

(a) When used in Section 270 of this rule, the following publications are incorporated by reference. These incorporations by reference were approved by the Director of the Federal Register pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the Federal Register. Copies may be inspected at the Library, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., (3403T), Washington, DC 20460, libraryhq@epa.gov; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) The following materials are available for purchase from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800:

(1) “APTI Course 415: Control of Gaseous Emissions,” EPA Publication EPA-450/2-81-005, December 1981, IBR approved for §§ 270.24 and 270.25.

(2) [Reserved].

§ 270.7 Arkansas’s General Requirements for Permit Applications

(a) Nothing in this Section shall be construed to allow commercial hazardous waste landfill facilities to store, treat, bury, dispose or otherwise process hazardous waste without first obtaining a permit from the Division under the provisions of this Rule.

(b) Financial Assurances. The owner or operator of a hazardous waste disposal facility shall provide long term financial responsibility as the Division may deem appropriate (§§ 264 and 265, Subsection H, of this rule), taking into account the nature of the facility and the nature of waste stored, treated or disposed of in such facility. The financial responsibility required under this paragraph shall provide funds for claims arising out of injury to persons and property from the

release or escape of hazardous waste to the environment during sudden or accidental occurrences and shall provide for reimbursement of expenses incurred by the Division or the State of Arkansas for cleanup or maintenance, monitoring or such other activities as may be necessary. The financial responsibilities required hereunder shall be for such period as determined by the Division.

(c) The owner or operator of a hazardous waste disposal facility shall provide contracts, agreements and such other documentation as may be required to demonstrate to the Director's reasonable satisfaction that the waste which is proposed to be disposed of is waste which results from the treatment of waste to the full extent of known technology and economics or is waste for which there is no technically and economically feasible means of treatment available.

(d) Pre-application public meeting and notice.

(1) Applicability. The following requirements shall apply to all RCRA part B applications seeking initial permits for hazardous waste management units over which the Division has permit issuance authority. The requirements of this section shall also apply to RCRA part B applications seeking renewal of permits for such units, where the renewal application is proposing a significant change in facility operations. (For the purposes of this section, a "significant change" is any change that would qualify as a Class 3 permit modification under § 270.42 of this rule.) The requirements of this section do not apply to *other* permit modifications under § 270.42 or to applications that are submitted for the sole purpose of conducting post-closure activities or post-closure activities and corrective action at a facility.

(2) Prior to the submission of a part B RCRA permit application for a facility, the applicant must hold at least one meeting with the public in order to solicit questions from the community and inform the community of its proposed hazardous waste management activities. The applicant shall post a sign-in sheet or otherwise provide a voluntary opportunity for attendees to provide their names and addresses.

(3) The applicant shall submit a summary of the meeting, along with the list of attendees and their addresses developed under paragraph (b) of this section, and copies of any written comments or materials submitted at the meeting, to the Division as a part of the part B application, in accordance with § 270.14(b).

(4) The applicant must provide public notice of the pre-application meeting at least 30 days prior to the meeting. The applicant must maintain, and provide to the Division upon request, documentation of this notice.

(i) The applicant shall provide public notice in all of the following forms:

(A) A newspaper advertisement. The applicant shall publish a notice fulfilling the requirements of paragraph (4)(ii) of this subsection *in the newspaper having the largest circulation published in the county in which the facility is, or is proposed to be located, as well as publishing a notice in the newspaper having the largest circulation published in each adjoining county. If there is no newspaper published in any of the counties so affected, the notice shall be published in the newspaper(s) having the largest circulation in such county or counties.* The notice must be published as a display advertisement. *Proof of publication of the above notice shall be submitted to the Division within thirty (30) days of submission of the application.*

(B) A visible and accessible sign. The applicant shall post a notice on a clearly marked sign at or near the facility, fulfilling the requirements in paragraphs (4)(ii) below. If the applicant places the sign on the facility property, then the sign must be large enough to be readable from the nearest point where the public would pass by the

site.

(C) A broadcast media announcement. The applicant shall broadcast a notice, fulfilling the requirements in paragraph (4)(ii) of this section, at least once on at least one local radio station or television station. The applicant may employ another medium with prior approval of the Director.

(D) A notice to the permitting agency. The applicant shall send a copy of the newspaper notice to the Division and to the appropriate units of State and local government, in accordance with 40 CFR 124.10(c)(1)(x).

(ii) The notices required under paragraph (4)(i) of this section must include:

(A) *The name, title, and business address of the applicant;*

(B) *The location of the unit and/or facility, including a description of the boundaries, including the address or a map (e.g., a sketched or copied street map of the facility location);*

(C) A brief description of the nature of the facility (storage, treatment, or disposal) and its proposed operations (e.g., how waste is to be stored, treated, or disposed of) at the unit or facility which is the subject of the permit application;

(D) *The types of hazardous wastes to be managed at the unit or facility;*

(E) The date, time, and location of the meeting;

(F) A brief description of the purpose of the meeting;

(G) A statement encouraging people to contact the facility at least 72 hours before the meeting if they need special access to participate in the meeting; and

(H) The name, address, and telephone number of a contact person for the applicant.

(e) Public notice requirements at the application stage.

(1) Applicability. The following requirements shall apply to all RCRA part B applications seeking initial permits for hazardous waste management units over which the Division has permit issuance authority. The requirements of this section shall also apply to RCRA part B applications seeking renewal of permits for such units under § 270.51. The requirements of this section do not apply to permit modifications under § 270.42 or permit applications submitted for the sole purpose of conducting post-closure activities or post-closure activities and corrective action at a facility.

(2) Notification at application submittal.

(i) The applicant, or the owner/operator of the facility shall provide public notice as set forth in 40 CFR 124.10(c)(1)(ix), and notice to appropriate units of State and local government as set forth in 40 CFR 124.10(c)(1)(x), that a part B permit application has been submitted to the Division and is available for review.

(ii) The notice shall be published in accordance with the provisions of *Rule No. 8, § 8.205. In addition to the information required at Rule No. 8 § 8.205(B)*, the notice must include:

(A) *The name, title, and business address of the applicant;*

(B) *The location of the unit and/or facility, including a description of the boundaries, including the address or a map (e.g., a sketched or copied street map of the facility location), and the city, town, or community nearest to the proposed facility;*

(C) A brief description of the nature of the facility (storage, treatment, or disposal) and its proposed operations (e.g., how waste is to be stored, treated, or disposed of) at the unit or facility which is the subject of the permit application;

(D) *The types of hazardous wastes to be managed at the unit or facility;*

(E) The name and telephone number of the applicant's contact person;

(F) The name and telephone number of the Division's contact office, and a mailing address to which information, opinions, and inquiries may be directed throughout the permit review process;

(G) An address to which people can write in order to be put on the facility mailing list;

(H) The location where copies of the permit application and any supporting documents can be viewed and copied; and

(I) The date that the application was submitted.

(3) Concurrent with the notice required under paragraph (2) above, the applicant or owner/operator must place a copy of the permit application and any supporting documents in a location accessible to the public in the vicinity of the facility or at the permitting agency's office.

(f) Information repository.

(1) Applicability. The requirements of this section apply to all applications seeking RCRA permits for hazardous waste management units over which the Division has permit issuance authority.

(2) The Director may assess the need, on a case-by-case basis, for an information repository. When assessing the need for an information repository, the Director shall consider a variety of factors, including: the level of public interest; the type of facility; the presence of an existing repository; and the proximity to the nearest copy of the administrative record. If the Director determines, at any time after submittal of a permit application, that there is a need for a repository, then the Director shall notify the facility that it must establish and maintain an information repository. (See § 270.30(m) for similar provisions relating to the information repository during the life of a permit).

(3) The information repository shall contain all documents, reports, data, and information deemed necessary by the Director to fulfill the purposes for which the repository is established. The Director shall have the discretion to limit the contents of the repository.

(4) The information repository shall be located and maintained at a site chosen by the facility. If the Director finds the site unsuitable for the purposes and persons for which it was established, due to problems with the location, hours of availability, access, or other relevant considerations, then the Director shall specify a more appropriate site.

(5) The Director shall specify requirements for informing the public about the information repository. At a minimum, the Director shall require the facility to provide a written notice about the information repository to all individuals on the facility mailing list.

(6) The facility owner/operator shall be responsible for maintaining and updating the repository with appropriate information throughout a time period specified by the Director. The Director may close the repository at his or her discretion, based on the factors in paragraph (2) of this section.

(g) Notice to Adjacent Landholders and Tenants. Any person who submits a permit application for a new or existing hazardous waste management facility permit to the Division (including requests to modify or transfer an existing permit) shall provide written notice to all landholders and tenants of property contiguous to the proposed or existing facility. This notice shall be sent by certified mail, return receipt requested, and shall contain:

- (1) The name, title, and address of the applicant;*
- (2) The location of the unit and/or facility, including a description of the boundaries of such unit and/or facility;*
- (3) The nature of the unit or facility (storage, treatment, or disposal) and a brief description of how wastes are to be stored, treated, or disposed of at the unit or facility which is the subject of the application; and*
- (4) The type(s) of hazardous wastes to be managed at the unit or facility.*

The applicant shall submit to the Division documentation of its good faith effort to identify all such contiguous landholders and tenants and proof of notification within thirty (30) days of the application.

(h) Permit Issuance.

(1) A permit may not be transferred, issued or modified except with the approval of the Division provided, however, emergency authorization may be issued by the Director in accordance with the provisions of Sections 270.61 through 270.63.

(2) No permit shall be issued for the construction, modification or operation of a hazardous waste management facility unless the Division finds, after public hearings as provided herein, that said construction, modification or operation is, or will be, in compliance with the provisions of this Rule including applicable provisions of Sections 264, 265, 270, and 40 CFR 124, 40 CFR 264, 40 CFR 265, 40 CFR 267 and 40 CFR 270. The Division may establish additional requirements as conditions of permit where it deems such conditions necessary to protect the public health and the environment.

(3) The Division may grant variances in accordance with the provisions of A.C.A. § 8-7-211, provided that said variances shall not provide terms less stringent than those set by federal regulations at 40 CFR Parts 260-268 and 270, or terms less stringent than provisions of this Rule analogous to such federal regulations.

(4) Upon receipt of an application for a permit for a hazardous waste management facility, the Director shall cause the permit to be processed in accordance with the applicable the provisions of this Rule and 40 CFR Part 124 as adopted at Section 3 of this Rule.

(5) The Director may authorize qualified persons interested in a pending application to enter upon the proposed site and make such relevant surveys and tests as the Director authorizes, under such conditions as required by the Director and upon sufficient notice to the applicant. All results of surveys or tests will be provided to both the Division and the permit applicant and all costs of surveys or tests will be borne by the party or parties requesting them. The Director will further insure that the permit applicant will have an opportunity to make a satisfactory showing (as provided in § 270.12 of this Rule) that certain information which could meet criteria for being treated as confidential will not be collected by or disclosed to any individual other than authorized personnel of the Division.

(6) No permit shall be issued for a commercial hazardous waste management facility unless a public hearing is held in accordance with the provisions of subparagraph (9) below. No permit for noncommercial hazardous waste management facilities shall be issued unless the Division first gives a 45 day opportunity for public comment as provided in 40 CFR 124.10. Where written objection to the issuance of a permit for a noncommercial hazardous waste management facility is filed within the 45 day comment period, no permit shall be issued unless a public hearing is held in accordance with the provisions of subparagraph (9) below.

(7) Prior to drafting the permit for any hazardous waste management facility, the Division may hold a preliminary hearing, for information purposes, in the area in which the facility is, or is to be located. The hearing may be held by giving no less than ten (10) days notice in the newspaper having the largest circulation in the county in which the facility is, or is proposed to be located and the newspaper having the largest circulation in each adjoining county. The notice shall provide:

- (i) The time, date and location of the hearing;
- (ii) The purpose of the hearing; and
- (iii) The location(s) where the application and all supporting information is available for public review.

(8) A 30-day notice of public hearing on the draft permit shall be given in the manner described in subparagraph (7) above¹. The notice shall provide:

- (i) The time, date and location of the hearing;
- (ii) The purpose of the hearing;
- (iii) The name and address of the applicant and the location where the facility is, or is proposed to be located;
- (iv) The tentative recommendation of the Division;
- (v) The location(s) where copies of the application, the Division's recommendations and all supporting documentation can be reviewed by the public;
- (vi) Procedures for submitting public comments into the hearing record.

(9) The public hearing required under subparagraph (8) above shall be in the area where the facility is or is proposed to be located. A record of hearing shall be made and retained as part of the administrative record of each application for review by the Commission.

(i) In addition to the requirement of Section 265.119, a permittee shall submit to the Division, as part of the annual permit review process, a plat of any landfill disposal area in which waste has been deposited. Such plat shall clearly delineate the location of all wastes and its type, referenced to established benchmarks.

(j) Upon receipt of federal Hazardous and Solid Waste Act ("HSWA") authorization for the Arkansas Division of Environmental Quality's Hazardous Waste Management Program, the Division shall be authorized to and shall enforce the HSWA provisions imposed by the Environmental Protection Agency in hazardous waste permits that were issued before the HSWA authorization was granted. DEQ, jointly with EPA, will notify permitted facilities in writing of the specific provisions which will become the state agency's responsibility as a result of the additional authorization and of the effective date of the changeover. This notification will serve as an addendum to the permit. Permits pending at the time of authorization will be modified to properly identify specific provisions for which the Division has primary responsibility.

Subsection B – Permit Applications

§ 270.10 General application requirements

(a) Applying for a permit. Below is information on how to obtain a permit and where to find requirements for specific permits:

- (1) If you are covered by RCRA permits by rule (§ 270.60), you need not apply.

(2) If you currently have interim status, you must apply for permits when required by the Director.

(3) If you are required to have a permit (including new applicants and permittees with expiring permits), you must complete, sign, and submit an application to the Director, as described in this section and §§ 270.70 through 270.73.

(4) If you are seeking an emergency permit, the procedures for application, issuance, and administration are found exclusively in § 270.61.

(5) If you are seeking a research, development, and demonstration permit, the procedures for application, issuance, and administration are found exclusively in § 270.65.

(6) If you are seeking a standardized permit, the procedures for application and issuance are found in 40 CFR Part 124, subsection G, Rule No. 8, and Subsection J of this Section.

(b) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, except that the owner must also sign the permit application.

(c) Completeness. The Director shall not issue a permit before receiving a complete application for a permit except for permits by rule, or emergency permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his satisfaction. An application for a permit is complete notwithstanding the failure of the owner or operator to submit the exposure information described in paragraph (j) of this section. The Director may deny a permit for the active life of a hazardous waste management facility or unit before receiving a complete application for a permit.

(d) Information requirements. All applicants for HWM permits shall provide information set forth in § 270.13 and applicable sections in §§ 270.14 through 270.29 to the Director, using the application form provided by the Director.

(e) ***Existing Facilities:***

(1) Facilities in existence on *March 14, 1979*, which are required to have a permit under the Act may continue in operation until such time as a permit is issued or denied under this Chapter and Rule, provided that the owner or operator of such facility made application to the Division on the initial state application form on or before *September 14, 1979*; and provided that such facilities also comply with the other provisions of this Section and the provisions of § 270.10 and 270.71-73.

(Editor's Note: This is a more stringent State requirement of the Arkansas Hazardous Waste Management Act (§ 8-7-216(b)). Whereas the federal regulations allow a facility to qualify for interim status by submitting a Part A application by November 19, 1980, Arkansas facilities must have applied on or prior to September 14, 1979 in order to have qualified for interim status under the RCRA regulations.)

(2) *Owners and operators of hazardous waste management facilities, in existence as of the effective date of provisions adopted in this Rule which first subject them to compliance with the standards of this Rule and 40 CFR 265, must submit Part A of their permit application to the Division no later than (i) six months after the date of publication of regulations in this Rule which first require them to comply with the standards set forth in this Rule and 40 CFR Part 265, or (ii) thirty days after the date they first become subject to the standards set forth in this Rule and 40 CFR Part 265, whichever first occurs.*

(3) *The Director may extend the date by which owners and operators of specific classes of existing hazardous waste management facilities must submit their initial state application and/or Part A of their permit application if he finds that 1) there has been substantial*

confusion as to whether the owners and operators of such facilities were required to file a permit application; and 2) such confusion is attributed to ambiguities in 40 CFR Parts 260, 261 or 265.

(4) The Director may by Administrative Order issued under the Act, this Rule, and Rule No. 8, extend the date by which the owner or operator of an existing hazardous waste management facility must submit the initial state application and/or Part A of their permit application.

(5) The Director may require submission of Part B from any facility at any time. Any owner or operator shall be allowed at least six months from the date of request to submit Part B of the application. Any owner or operator of an existing hazardous waste management facility may voluntarily submit Part B of the application at any time.

(6) Failure to furnish a requested Part B application on time, or to furnish in full the information required by the Part B application, is grounds for termination of interim status.

(7) Any person who owns or operates an existing hazardous waste management facility shall have interim status and shall be treated as having been issued a permit to the extent he or she has complied with the requirements of Arkansas Code, Annotated, § 8-7-218, as amended, § 264.18(f), paragraphs (1)-(5) above, and RCRA § 3010.

(8) If the Division determines that a Part A application is deficient, it may notify the owner or operator that he or she is not entitled to interim status. The owner or operator shall then be subject to enforcement for operating without a permit.

(9) Nothing in this Section shall be construed to allow commercial hazardous waste landfill facilities to store, treat, bury, dispose, or otherwise process hazardous waste without first obtaining a permit from the Division under this chapter and Rule.

(f) New HWM facilities.

(1) Except as provided in paragraph (f)(3) of this section, no person shall begin physical construction of a new HWM facility without having submitted Parts A and B of the permit application and having received a finally effective HWM permit.

(2) An application for a permit for a new hazardous waste management facility (including both Parts A and B) may be filed any time after promulgation of those standards in Section 264, subsection I *et seq.* applicable to such facility. The application shall be filed with the Regional Administrator if at the time of application the State in which the new hazardous waste management facility is proposed to be located has not received interim or final authorization for permitting such facility; otherwise it shall be filed with the State Director. Except as provided in paragraph (f)(3) of this section, all applications must be submitted at least 180 days before physical construction is expected to commence.

(3) Notwithstanding paragraph (f)(1) of this section, a person may construct a facility for the incineration of polychlorinated biphenyls pursuant to an approval issued by the EPA Administrator under section (6)(e) of the federal Toxic Substances Control Act and any person owning or operating such a facility may, at any time after construction or operation of such facility has begun, file an application for an HWM permit to incinerate hazardous waste authorizing such facility to incinerate waste identified or listed under A.C.A. §§ 8-7-201 *et seq.*

(g) Updating permit applications. (1) If any owner or operator of a hazardous waste management facility has filed Part A of a permit application and has not yet filed part B, the owner or operator shall file an amended part A application:

(i) With the Regional Administrator if the facility is located in a State which has not obtained interim authorization or final authorization, within six months after the promulgation of revised rules under Section 261 listing or identifying additional hazardous wastes, if the facility is treating, storing or disposing of any of those newly listed or identified wastes.

(ii) With the State Director, if the facility is located in a State which has obtained interim authorization or final authorization, no later than the effective date of regulatory provisions listing or designating wastes as hazardous in that State in addition to those listed or designated under the previously approved State program, if the facility is treating, storing or disposing of any of those newly listed or designated wastes; or

(iii) As necessary to comply with provisions of §. 270.72 for changes during interim status or with the analogous provisions of a State program approved for final authorization or interim authorization. Revised Part A applications necessary to comply with the provisions of Sec. 270.72 shall be filed with the Regional Administrator if the State in which the facility in question is located does not have interim authorization or final authorization; otherwise it shall be filed with the State Director (if the State has an analogous provision).

(2) The owner or operator of a facility who fails to comply with the updating requirements of paragraph (g)(1) of this section does not receive interim status as to the wastes not covered by duly filed Part A applications.

(h) Reapplying for a permit. If you have an effective permit and you want to reapply for a new one, you have two options:

(1) You may submit a new application at least 180 days before the expiration date of the effective permit, unless the Director allows a later date; or

(2) If you intend to be covered by a standardized permit, you may submit a Notice of Intent as described in § 270.51(e)(1) at least 180 days before the expiration date of the effective permit, unless the Director allows a later date. The Director may not allow you to submit applications or Notices of Intent later than the expiration date of the existing permit, except as allowed by § 270.51(e)(2).

(i) Recordkeeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under §§ 270.10(d), 270.13, 270.14 through 270.21 for a period of at least 3 years from the date the application is signed.

(j) Exposure information. (1) After August 8, 1985, any Part B permit application submitted by an owner or operator of a facility that stores, treats, or disposes of hazardous waste in a surface impoundment or a landfill must be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, such information must address:

(i) Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

(ii) The potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph (j)(1)(i) of this section; and

(iii) The potential magnitude and nature of the human exposure resulting from such releases.

(2) By August 8, 1985, owners and operators of a landfill or a surface impoundment who

have already submitted a Part B application must submit the exposure information required in paragraph (j)(1) of this section.

(k) The Director may require a permittee or an applicant to submit information in order to establish permit conditions under §§ 270.32(b)(2) and 270.50(d) of this rule.

(l) Disclosure Requirements. (1) Pursuant to the provisions of Ark. Code Ann. § 8-1-106, all applicants for a RCRA treatment, storage, or disposal permit for a noncommercial hazardous waste management facility, transfer of any permit, or any other permit, license, certification, or operating authority shall submit a disclosure statement with their application. The submission of a disclosure statement is mandatory; no application can be considered complete without it. Deliberate falsification or omission of relevant information from a disclosure statement shall be grounds for civil or criminal enforcement action or the administrative denial of a permit, license, certification, or operational authorization. The disclosure statement shall be an original, written statement by the applicant which contains:

(i) The full name, business address, and social security number of the applicant and all affiliated persons;

(ii) The full name and business address of any legal entity in which the applicant holds a debt or equity interest of five percent (5%) or more, or which is a parent company or subsidiary of the applicant, and a description of the ongoing organizational relationships as they may impact the applicant's operations in Arkansas;

(iii) A description of the experience and credentials of the applicant, including any past or present permits, licenses, certifications, or operational authorizations relating to environmental regulation;

(iv) A listing and explanation of any civil or criminal enforcement actions by governmental agencies involving environmental protection laws against the applicant or any affiliated person within the ten years immediately preceding the filing of the application, to include administrative enforcement actions or consent orders resulting in the imposition of sanctions, permit or license revocations or denials issued by any state or federal authority, any actions that have resulted in a finding or a settlement of a violation, and any similar action pending;

(v) A listing of any federal environmental agency and any other environmental enforcement agency that has or has had regulatory responsibility over the applicant; and

(vi) Any other additional information the Director may require which relates to the competency, reliability, or responsibility of the applicant and any affiliated person.

(2) If the applicant is a publicly held company required to file periodic reports under the Securities and Exchange Act of 1934, or a wholly-owned subsidiary of a publicly-held company, he may submit, in lieu of a disclosure statement, a copy of the most recent annual and quarterly reports required by the Securities and Exchange Commission¹. The applicant shall also submit any other information required by the Director which relates to the competency, reliability, or responsibility of the applicant and any affiliated person.

(3) Governmental entities consisting only of subdivisions or agencies of the federal government, agencies of the state government, counties, municipalities, or duly authorized regional solid waste authorities as defined at Ark. Code Ann. § 8-6-707 are not required to file a disclosure statement under the provisions of this section.

(4) In addition to the requirements of Section 270.14 of this rule, a change of the ultimate

controlling authority from one ultimate controlling person to another is deemed a transfer of permit subject to the prior approval of the Division. An application requesting such approval must contain at least the following information:

- (i) A description of the nature, source and amount of funds or other considerations to be used in affecting the merger or other acquisitions of control;*
- (ii) The number and percentage or shares of the voting securities which the acquiring person plans to acquire and the terms of the offer, request, invitation, agreement or acquisition; and*
- (iii) All information required under paragraphs (1) or (m) of this Subsection concerning the acquiring person.*

(m) Ownership Disclosure for Commercial Waste Facilities

(1) The following information shall be submitted along with Part A of any permit application for a commercial hazardous waste management facility.

(i) If the permit applicant is not an individual, the nature of its business operations shall be stated for the past five years or for such lesser period as such person and any predecessors thereof shall have been in existence.

(ii) A chart or listing clearly presenting the identities of the interrelationships among the applicant and all affiliates of the applicant shall be furnished. No affiliate need to be identified if its total assets are equal to or less than 1/2 of 1% total assets of the ultimate controlling person affiliated with the applicant. Such a chart should indicate or list the percentage voting securities of each such person which is owned or controlled by the applicant or by any other person, if control of any person is maintained other than basis of such control. As to each person specified in such chart or listing, indicate the type of organization (e.g., corporation, trust, partnership) and the state or other jurisdiction or domicile.

(2) State the following with respect to 1) the permit application if he or she is an individual or 2) all individuals who are directors, executive officers or owners of 10% or more of the voting securities of the permit applicant if the applicant is not an individual:

- (i) Name and business address;*
- (ii) Present principal business activity, occupation or employment position and office held and the name, principal business and address of any corporation or other organization in which such employment is carried on;*
- (iii) Material occupations, positions, offices or employment during the last five years, giving the starting and ending dates of each and the name, principal business and address of any business, corporation, position, office or employment carried on; and*
- (iv) Whether or not such individual has ever been convicted in a criminal proceeding (excluding minor traffic violations) during the last 10 years and, if so, giving the date, nature of conviction, name and location of court, and penalty imposed or other disposition of the case.*

(3) The following additional information shall be furnished concerning the ultimate controlling person if different from the applicant:

- (i) The principal executive office address;*
- (ii) The principal business of the person;*
- (iii) The name and address of any person who holds or owns 10% or more of any class of voting security, the class of such security, the number of shares held of record*

or known to the owner and the percentage of class so held or owned; and

(iv) With respect to directors and executive officers of the ultimate controlling person, the individual's name and address, his principal occupation and all offices and positions held during the previous five years and any conviction of crimes other than minor traffic violations during the past ten years.

(4) The permit applicant shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the preceding year, to which the applicant (and the ultimate controlling person, if different from the applicant) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:

(i) Administrative or judicial proceedings of any state or federal agency or authority concerning environmental violations;

(ii) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including, but not necessarily limited to, bankruptcy and receivership; and

(iii) Criminal proceedings.

(5) The permit applicant shall disclose on an annual basis any changes in the information requested under this paragraph ((m)).

(6) Every person who becomes the owner of 10% or more of any voting security of a permittee or the ultimate controlling person subsequent to the issuance of a permit shall report within ten (10) days of becoming such owner or controlling person the information required under § 270.10(m)(2) above.

(n) If the Director concludes, based on one or more of the factors listed in paragraph (n)(1) of this section that compliance with the standards of 40 CFR part 63, subpart EEE alone may not be protective of human health or the environment, the Director shall require the additional information or assessment(s) necessary to determine whether additional controls are necessary to ensure protection of human health and the environment. This includes information necessary to evaluate the potential risk to human health and/or the environment resulting from both direct and indirect exposure pathways. The Director may also require a permittee or applicant to provide information necessary to determine whether such an assessment(s) should be required.

(1) The Director shall base the evaluation of whether compliance with the standards of 40 CFR part 63, subpart EEE alone is protective of human health or the environment on factors relevant to the potential risk from a hazardous waste combustion unit, including, as appropriate, any of the following factors:

(i) Particular site-specific considerations such as proximity to receptors (such as schools, hospitals, nursing homes, day care centers, parks, community activity centers, or other potentially sensitive receptors), unique dispersion patterns, etc.;

(ii) Identities and quantities of emissions of persistent, bioaccumulative or toxic pollutants considering enforceable controls in place to limit those pollutants;

(iii) Identities and quantities of nondioxin products of incomplete combustion most likely to be emitted and to pose significant risk based on known toxicities (confirmation of which should be made through emissions testing);

(iv) Identities and quantities of other off-site sources of pollutants in proximity of the facility that significantly influence interpretation of a facility-specific risk assessment;

- (v) Presence of significant ecological considerations, such as the proximity of a particularly sensitive ecological area;
 - (vi) Volume and types of wastes, for example wastes containing highly toxic constituents;
 - (vii) Other on-site sources of hazardous air pollutants that significantly influence interpretation of the risk posed by the operation of the source in question;
 - (viii) Adequacy of any previously conducted risk assessment, given any subsequent changes in conditions likely to affect risk; and
 - (ix) Such other factors as may be appropriate.
- (2) [Reserved]

§ 270.11 Signatories to permit applications and reports

(a) Applications. All permit applications shall be signed as follows:

(1) For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or (ii) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: DEQ does not require specific assignments or delegations of authority to responsible corporate officers identified in § 270.11(a)(1)(i). The Division will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under § 270.11(a)(1)(ii) rather than to specific individuals.

(2) For a partnership or sole proprietorship; by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) Reports. All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(3) The written authorization is submitted to the Director.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer

accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d)(1) Any person signing a document under paragraph (a) or (b) of this section must make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(2) For remedial action plans (RAPs) under subsection H of this section, if the operator certifies according to paragraph (d)(1) of this section, then the owner may choose to make the following certification instead of the certification in paragraph (d)(1) of this section: Based on my knowledge of the conditions of the property described in the RAP and my inquiry of the person or persons who manage the system referenced in the operator's certification, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

§ 270.12 Availability of Information and Protection of Trade and Business Secrets

(a) Any records, reports, or information contained under this Rule and any permits, permit applications, and related documentation shall be available to the public for inspection and copying. However, upon a satisfactory showing to the Director that such records, reports, permits, documentation, or information, or any part thereof would, if made public, divulge methods or processes entitled to protection as trade secrets, the Director shall consider, treat and protect such records as confidential.

(b) It shall be the responsibility of the person claiming any information as confidential under the provisions of subsection a above to clearly mark each page containing such information with the words "CONFIDENTIAL" and to submit an affidavit setting forth the reasons that said person believes that such information is entitled to protection.

(c) Any document submitted to the Division which contains information for which the claim of confidential information is made shall be submitted in a sealed envelope marked "CONFIDENTIAL" and addressed to the Director. The document shall be submitted in two separate parts. The first part shall contain all information which is not deemed by the person preparing the report as confidential and shall include appropriate cross references to the second part which contains data, words, phrases, paragraphs, or pages and appropriate affidavits containing or relating to information which is claimed to be confidential.

(d) No information shall be protected as confidential information by the Director unless it is submitted to him in accordance with the provisions of subsection (c) above. No information which is submitted in accordance with the provisions of subsection (c) above shall be afforded protection as confidential information unless the Director finds that such protection is necessary to protect trade secrets and that such protection will not hide from public view the characteristics of waste material and probable effects of the introduction of such waste or byproducts into the environment as a result of the operation of a hazardous waste management facility. The person who submits information claimed as confidential shall receive written notice from the Director as to whether the information has been accepted as confidential or not.

(e) All information which meets the tests of subsection (d) above shall be marked with the term "ACCEPTED" and shall be protected as confidential information. Whenever the Director finds that information which has been submitted as confidential information in accordance with subsection (c) above does not meet the criteria of subsection (d) above, he shall promptly notify the person submitting such information of his findings and shall give that person reasonable opportunity to further justify his contention that the information deserves protection as a trade secret or to further limit the scope of information for which the request for protection is made. If said person fails to satisfactorily demonstrate to the Director that such information in the form presented to him meets the criteria of subsection (d) above, the Director shall mark the information "REJECTED" and promptly return such information to the person submitting such information. Such person shall have 30 days to resubmit the information in acceptable form or appeal the decision of the Director.

(f) All information which is accepted by the Director as confidential shall be stored in locked filing cabinets and only those personnel of the Division specifically designated by the Director shall have access to the information contained therein. The Director shall not designate any persons to have access to confidential information unless the person requires such access in order to carry out his responsibilities and duties. No person shall disclose any confidential information except in accordance with the provisions of this Section. No copies shall be made other than for internal Division use or for use or transmittal to officers and employees of the United States except with the written permission of the Director and the person submitting the information.

(g) The person(s) designated by the Director to maintain confidential files as herein provided shall maintain a log showing the persons who have had access to the confidential files and the dates of such access.

(h) As necessary to carry out the provisions of the Arkansas Hazardous Waste Management Act, any confidential information acquired by the Division under the provisions of said act may be transmitted to other offices, employees, or authorized representatives of the state or United States provided that the owner or operator of the facility to which such information pertains is informed of such transmittal and provided that such transmittal is made under a continuing restriction of confidentiality.

(i) Nothing contained herein shall be construed so as to restrict the release of relevant confidential information during situations declared to be emergencies by the Director or his designee.

(j) Claims of confidentiality for the name and address of any permit applicant or permittee will be denied.

(k) If a request for any records, documents or information acquired or maintained by DEQ pursuant to the Arkansas Hazardous Waste Management Act and/or this Rule is denied by the

Director a notice shall be sent to the requestor stating the basis of the denial and informing the requestor that:

(1) He may appeal immediately from such denial to an appropriate Circuit Court pursuant to the Arkansas Freedom of Information Act; or,

(2) He may request judicial review within thirty (30) days of receipt of the notice by filing a notice of appeal with the Secretary of the Arkansas Pollution Control and Ecology Commission and proceeding further pursuant to A.C.A. § 8-4-222.

(l) If a request for records, documents or information is denied, the Director will send the notice required by subsection (k) within twenty (20) days of receipt of the request.

(m) If the Director fails to produce requested records, documents or information and fails to send the notice required by subsection (k), such failure shall constitute final agency action giving the requestor the right to judicial review under A.C.A. § 8-4-222 in addition to any rights of review under the Arkansas Freedom of Information Act.

§ 270.13 Contents of Part A of the permit application

Part A of the hazardous waste management permit application shall include the following information:

- (a) The activities conducted by the applicant which require it to obtain a permit under RCRA.
- (b) Name, mailing address, and location, including latitude and longitude of the facility for which the application is submitted.
- (c) Up to four SIC codes which best reflect the principal products or services provided by the facility.
- (d) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.
- (e) The name, address, and phone number of the owner of the facility.
- (f) Whether the facility is located on Indian lands.
- (g) An indication of whether the facility is new or existing and whether it is a first or revised application.
- (h) For existing facilities, (1) a scale drawing of the facility showing the location of all past, present, and future treatment, storage, and disposal areas; and (2) photographs of the facility clearly delineating all existing structures; existing treatment, storage, and disposal areas; and sites of future treatment, storage, and disposal areas.
- (i) A description of the processes to be used for treating, storing, and disposing of hazardous waste, and the design capacity of these items.
- (j) A specification of the hazardous wastes listed or designated under Section 261 of this rule to be treated, stored, or disposed of at the facility, an estimate of the quantity of such wastes to be treated, stored, or disposed annually, and a general description of the processes to be used for such wastes. *For each hazardous waste described above, the application shall include the name and location of the generator of the wastes.*
- (k) A listing of all permits or construction approvals received or applied for under any of the following programs:
 - (1) Hazardous Waste Management program under RCRA.
 - (2) UIC program under the SWDA.
 - (3) NPDES program under the CWA.

- (4) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.
- (5) Nonattainment program under the Clean Air Act.
- (6) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.
- (7) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.
- (8) Dredge or fill permits under section 404 of the CWA.
- (9) Other relevant environmental permits, including State permits.
- (l) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within 1/4 mile of the facility property boundary.
- (m) A brief description of the nature of the business.
- (n) For hazardous debris, a description of the debris category(ies) and contaminant category(ies) to be treated, stored, or disposed of at the facility.
- (o) *Disclosure information as required by § 270.10(l) of this section.*
- (p) *For hazardous waste landfills, evidence of such forms of assurance including full fee ownership of lands and all mineral rights thereto, to ensure that the owner of the landfill for which application is made has the legal authority to commit lands used for the landfill to perpetual security and that said owner has made such legally binding arrangements as necessary to protect the integrity of the surface and subsurface area of the landfill in perpetuity.*

§ 270.14 Contents of Part B: General requirements

(a) Part B of the permit application consists of the general information requirements of this section, and the specific information requirements in §§ 270.14 through 270.29 applicable to the facility. The Part B information requirements presented in §§ 270.14 through 270.29 reflect the standards promulgated in 40 CFR part 264 and Section 264. These information requirements are necessary in order for DEQ to determine compliance with the Section 264 and 40 CFR Part 264 standards. If owners and operators of HWM facilities can demonstrate that the information prescribed in Part B can not be provided to the extent required, the Director may make allowance for submission of such information on a case-by-case basis. Information required in Part B shall be submitted to the Director and signed in accordance with requirements in § 270.11. Certain technical data, such as design drawings and specifications, and engineering studies shall be certified by an *independent qualified Arkansas-registered professional engineer*. For post-closure permits, only the information specified in § 270.28 is required in Part B of the permit application.

(b) General information requirements. The following information is required for all HWM facilities, except as § 264.1 provides otherwise:

- (1) A general description of the facility.
- (2) Chemical and physical analyses of the hazardous waste and hazardous debris to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the wastes properly in accordance with Section 264.

(3) A copy of the waste analysis plan required by § 264.13(b) and, if applicable § 264.13(c).

(4) A description of the security procedures and equipment required by § 264.14, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(5) A copy of the general inspection schedule required by § 264.15(b) of this section. Include where applicable, as part of the inspection schedule, specific requirements in §§ 264.174, 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, 264.602, 264.1033, 264.1052, 264.1053, 264.1058, 264.1084, 264.1085, 264.1086, 264.1088, and 264.1101 of this section.

(6) A justification of any request for a waiver(s) of the preparedness and prevention requirements of Section 264, Subsection C.

(7) A copy of the contingency plan required by Section 264, Subsection D. Note: Include, where applicable, as part of the contingency plan, specific requirements in §§ 264.227, 264.255, and 264.200, *and evidence that this plan has been developed in consultation with the fire division having jurisdiction and by the Mayor or City Manager of the municipality or by the County Judge of the county in which the facility is to be located.*

(8) A description of procedures, structures, or equipment used at the facility to:

- (i) Prevent hazards in unloading operations (for example, ramps, special forklifts);
- (ii) Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);
- (iii) Prevent contamination of water supplies;
- (iv) Mitigate effects of equipment failure and power outages;
- (v) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing); and
- (vi) Prevent releases to atmosphere.

(9) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with § 264.17 including documentation demonstrating compliance with § 264.17(c).

(10) Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

(11) Facility location information;

- (i) In order to determine the applicability of the seismic standard [§ 264.18(a)] the owner or operator of a new facility must identify the political jurisdiction (e.g., county, township, or election district) in which the facility is proposed to be located.

[Comment: If the county or election district is not listed in appendix VI of Section 264, no further information is required to demonstrate compliance with § 264.18(a).]

- (ii) If the facility is proposed to be located in an area listed in appendix VI of Section 264, the owner or operator shall demonstrate compliance with the seismic standard. This demonstration may be made using either published geologic data or data obtained from field investigations carried out by the applicant. The information provided must be of such quality to be acceptable to geologists experienced in identifying and evaluating seismic activity. The information submitted must show that either:

- (A) No faults which have had displacement in Holocene time are present, or no

lineations which suggest the presence of a fault (which have displacement in Holocene time) within 3,000 feet of a facility are present, based on data from:

- (1) Published geologic studies,
- (2) Aerial reconnaissance of the area within a five-mile radius from the facility.
- (3) An analysis of aerial photographs covering a 3,000 foot radius of the facility, and
- (4) If needed to clarify the above data, a reconnaissance based on walking portions of the area within 3,000 feet of the facility, or

(B) If faults (to include lineations) which have had displacement in Holocene time are present within 3,000 feet of a facility, no faults pass within 200 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted, based on data from a comprehensive geologic analysis of the site. Unless a site analysis is otherwise conclusive concerning the absence of faults within 200 feet of such portions of the facility data shall be obtained from a subsurface exploration (trenching) of the area within a distance no less than 200 feet from portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such trenching shall be performed in a direction that is perpendicular to known faults (which have had displacement in Holocene time) passing within 3,000 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such investigation shall document with supporting maps and other analyses, the location of faults found.

[Comment: EPA's "The Guidance Manual for the Location Standards" provides greater detail on the content of each type of seismic investigation and the appropriate conditions under which each approach or a combination of approaches would be used.]

(iii) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used where an FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

[Comment: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year flood elevation would be.]

(iv) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

(B) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

(C) If applicable, and in lieu of paragraphs (b)(11)(iv) (A) and (B) of this section, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

(1) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.

(2) A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under Sections 270 and 264 through 266 of this rule.

(3) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.

(4) The potential for accidental discharges of the waste during movement.

(v) Existing facilities NOT in compliance with § 264.18(b) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

(12) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with § 264.16. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in § 264.16(a)(3).

(13) A copy of the closure plan and, where applicable, the post-closure plan required by §§ 264.112, 264.118, and 264.197. Include, where applicable, as part of the plans, specific requirements in §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, 264.603, and 264.1102.

(14) For hazardous waste disposal units that have been closed, documentation that notices required under § 264.119 have been filed.

(15) The most recent closure cost estimate for the facility prepared in accordance with § 264.142 and a copy of the documentation required to demonstrate financial assurance under § 264.143. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

(16) Where applicable, the most recent post-closure cost estimate for the facility prepared in accordance with § 264.144 plus a copy of the documentation required to demonstrate financial assurance under § 264.145. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

(17) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of § 264.147. For a new facility, documentation showing the amount of insurance meeting the specification of § 264.147(a) and, if applicable, § 264.147(b), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in § 264.147(c).

(18) Where appropriate, proof of coverage by a State financial mechanism in compliance with § 264.149 or § 264.150.

(19) A topographic map showing a distance of 1000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of HWM facilities located in mountainous areas should use large contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following:

- (i) Map scale and date.
- (ii) 100-year floodplain area.
- (iii) Surface waters including intermittent streams.
- (iv) Surrounding land uses (residential, commercial, agricultural, recreational).
- (v) A wind rose (i.e., prevailing wind-speed and direction).
- (vi) Orientation of the map (north arrow).
- (vii) Legal boundaries of the HWM facility site.
- (viii) Access control (fences, gates).
- (ix) Injection and withdrawal wells both on-site and off-site.
- (x) Buildings; treatment, storage, or disposal operations; or other structure (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.)
- (xi) Barriers for drainage or flood control.
- (xii) Location of operational units within the HWM facility site, where hazardous waste is (or will be) treated, stored, or disposed (include equipment cleanup areas).
- (xiii) Location and description of all solid waste management units (SWMUs).

Note: For large HWM facilities the Division will allow the use of other scales on a case-by-case basis.

(20) Applicants may be required to submit such information as may be necessary to enable the Director to carry out his duties under other State and Federal laws as required in § 270.3 of this part.

(21) For land disposal facilities, if a case-by-case extension has been approved under 40 CFR 268.5 or a petition has been approved under § 268.6, a copy of the notice of approval for the extension or petition is required.

(22) A summary of the pre-application meeting, along with a list of attendees and their addresses, and copies of any written comments or materials submitted at the meeting, as required under § 270.9(a)(3).

(23) *A full description of all laboratory equipment, sampling procedures and analytical procedures which would be employed to identify, segregate or locate hazardous waste within the facility.*

(c) Additional information requirements. The following additional information regarding protection of groundwater is required from owners or operators of hazardous waste facilities containing a regulated unit except as provided in § 264.90(b) of this rule:

(1) A summary of the ground-water monitoring data obtained during the interim status period under §§ 265.90 through 265.94, where applicable.

(2) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including ground-water flow direction and rate, and the basis for

such identification (i.e., the information obtained from hydrogeologic investigations of the facility area).

(3) On the topographic map required under paragraph (b)(19) of this section, a delineation of the waste management area, the property boundary, the proposed “point of compliance” as defined under § 264.95, the proposed location of ground-water monitoring wells as required under § 264.97, and, to the extent possible, the information required in paragraph (c)(2) of this section.

(4) A description of any plume of contamination that has entered the ground water from a regulated unit at the time that the application was submitted that:

- (i) Delineates the extent of the plume on the topographic map required under paragraph (b)(19) of this section;

- (ii) Identifies the concentration of each appendix IX, of Section 264 of this rule, constituent throughout the plume or identifies the maximum concentrations of each appendix IX constituent in the plume.

(5) Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of § 264.97.

(6) If the presence of hazardous constituents has not been detected in the ground water at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of § 264.98. This submission must address the following items specified under § 264.98:

- (i) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the ground water;

- (ii) A proposed ground-water monitoring system;

- (iii) Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

- (iv) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground-water monitoring data.

(7) If the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of the permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of § 264.99. Except as provided in § 264.98(h)(5), the owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of § 264.100, unless the owner or operator obtains written authorization in advance from the Director to submit a proposed permit schedule for submittal of such a plan. To demonstrate compliance with § 264.99, the owner or operator must address the following items:

- (i) A description of the wastes previously handled at the facility;

- (ii) A characterization of the contaminated ground water, including concentrations of hazardous constituents;

- (iii) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with §§ 264.97 and 264.99;

- (iv) Proposed concentration limits for each hazardous constituent, based on the criteria set forth in § 264.94(a), including a justification for establishing any alternate

concentration limits;

(v) Detailed plans and an engineering report describing the proposed ground-water monitoring system, in accordance with the requirements of § 264.97; and

(vi) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground-water monitoring data.

(8) If hazardous constituents have been measured in the ground water which exceed the concentration limits established under § 264.94 Table 1, or if ground water monitoring conducted at the time of permit application under §§ 265.90 through 265.94 at the waste boundary indicates the presence of hazardous constituents from the facility in ground water over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of § 264.100. However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the Director that alternate concentration limits will protect human health and the environment after considering the criteria listed in § 264.94(b). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of § 264.99 and paragraph (c)(6) of this section. To demonstrate compliance with § 264.100, the owner or operator must address, at a minimum, the following items:

(i) A characterization of the contaminated ground water, including concentrations of hazardous constituents;

(ii) The concentration limit for each hazardous constituent found in the ground water as set forth in § 264.94;

(iii) Detailed plans and an engineering report describing the corrective action to be taken; and

(iv) A description of how the ground-water monitoring program will demonstrate the adequacy of the corrective action.

(v) The permit may contain a schedule for submittal of the information required in paragraphs (c)(8) (iii) and (iv) provided the owner or operator obtains written authorization from the Director prior to submittal of the complete permit application.

(d) Information requirements for solid waste management units.

(1) The following information is required for each solid waste management unit at a facility seeking a permit:

(i) The location of the unit on the topographic map required under paragraph (b)(19) of this section.

(ii) Designation of type of unit.

(iii) General dimensions and structural description (supply any available drawings).

(iv) When the unit was operated.

(v) Specification of all wastes that have been managed at the unit, to the extent available.

(2) The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of hazardous wastes or hazardous constituents from such unit or units.

(3) The owner/operator must conduct and provide the results of sampling and analysis of groundwater, land surface, and subsurface strata, surface water, or air, which may include the

installation of wells, where the Director ascertains it is necessary to complete a RCRA Facility Assessment that will determine if a more complete investigation is necessary.

§ 270.15 Specific Part B information requirements for containers

Except as otherwise provided in § 264.170, owners or operators of facilities that store containers of hazardous waste must provide the following additional information:

(a) A description of the containment system to demonstrate compliance with § 264.175. Show at least the following:

- (1) Basic design parameters, dimensions, and materials of construction.
- (2) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.
- (3) Capacity of the containment system relative to the number and volume of containers to be stored.
- (4) Provisions for preventing or managing run-on.
- (5) How accumulated liquids can be analyzed and removed to prevent overflow.

(b) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with § 264.175(c), including:

- (1) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and
- (2) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(c) Sketches, drawings, or data demonstrating compliance with § 264.176 (location of buffer zone and containers holding ignitable or reactive wastes) and § 264.177(c) (location of incompatible wastes), where applicable.

(d) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with §§ 264.177 (a) and (b), and 264.17 (b) and (c).

(e) Information on air emission control equipment as required in § 270.27.

§ 270.16 Specific Part B information requirements for tank systems

Except as otherwise provided in § 264.190, owners and operators of facilities that use tanks to store or treat hazardous waste must provide the following additional information:

(a) A written assessment that is reviewed and certified by an *independent, qualified, Arkansas-registered professional engineer* as to the structural integrity and suitability for handling hazardous waste of each tank system, as required under §§ 264.191 and 264.192;

(b) Dimensions and capacity of each tank;

(c) Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents);

(d) A diagram of piping, instrumentation, and process flow for each tank system;

(e) A description of materials and equipment used to provide external corrosion protection, as required under § 264.192(a)(3)(ii);

(f) For new tank systems, a detailed description of how the tank system(s) will be installed in compliance with § 264.192 (b), (c), (d), and (e);

(g) Detailed plans and description of how the secondary containment system for each tank system is or will be designed, constructed, and operated to meet the requirements of § 264.193 (a),

(b), (c), (d), (e), and (f);

(h) For tank systems for which a variance from the requirements of § 264.193 is sought (as provided by §§ 264.193(g)):

(1) Detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous waste or hazardous constituents into the ground water or surface water during the life of the facility, or

(2) A detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment.

(i) Description of controls and practices to prevent spills and overflows, as required under § 264.194(b); and

(j) For tank systems in which ignitable, reactive, or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with the requirements of §§ 264.198 and 264.199.

(k) Information on air emission control equipment as required in § 270.27.

§ 270.17 Specific Part B information requirements for surface impoundments

Except as otherwise provided in § 264.1, owners and operators of facilities that store, treat or dispose of hazardous waste in surface impoundments must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each surface impoundment;

(b) Detailed plans and an engineering report describing how the surface impoundment is designed and is or will be constructed, operated, and maintained to meet the requirements of §§ 264.19, 264.221, 264.222, and 264.223 of this rule, addressing the following items:

(1) The liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by § 264.221(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(2) The double liner and leak (leachate) detection, collection, and removal system, if the surface impoundment must meet the requirements of § 264.221(c) of this rule. If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by § 264.221(d), (e), or (f) of this rule, submit appropriate information;

(3) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system;

(4) The construction quality assurance (CQA) plan if required under § 264.19 of this rule;

(5) Proposed action leakage rate, with rationale, if required under § 264.222 of this rule, and response action plan, if required under § 264.223 of this rule;

(6) Prevention of overtopping; and

(7) Structural integrity of dikes;

(c) A description of how each surface impoundment, including the double liner system, leak

detection system, cover system, and appurtenances for control of overtopping, will be inspected in order to meet the requirements of § 264.226(a), (b), and (d) of this rule. This information must be included in the inspection plan submitted under § 270.14(b)(5);

(d) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under § 264.226(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications;

(e) A description of the procedure to be used for removing a surface impoundment from service, as required under § 264.227(b) and (c). This information should be included in the contingency plan submitted under § 270.14(b)(7);

(f) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under § 264.228(a)(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and an engineering report describing how § 264.228(a)(2) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under § 270.14(b)(13);

(g) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how § 264.229 will be complied with;

(h) If incompatible wastes, or incompatible wastes and materials will be placed in a surface impoundment, an explanation of how § 264.230 will be complied with.

(i) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.231. This submission must address the following items as specified in § 264.231:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(j) Information on air emission control equipment as required in § 270.27.

§ 270.18 Specific Part B information requirements for waste piles

Except as otherwise provided in § 264.1, owners and operators of facilities that store or treat hazardous waste in waste piles must provide the following additional information:

(a) A list of hazardous wastes placed or to be placed in each waste pile;

(b) If an exemption is sought to § 264.251 and Subsection F of Section 264 as provided by § 264.250(c) or § 264.90(b)(2), an explanation of how the standards of § 264.250(c) will be complied with or detailed plans and an engineering report describing how the requirements of § 264.90(b)(2) will be met.

(c) Detailed plans and an engineering report describing how the waste pile is designed and is or will be constructed, operated, and maintained to meet the requirements of §§ 264.19, 264.251, 264.252, and 264.253 of this rule, addressing the following items:

(1)(i) The liner system (except for an existing portion of a waste pile), if the waste pile must meet the requirements of § 264.251(a) of this rule. If an exemption from the

requirement for a liner is sought as provided by § 264.251(b) of this rule, submit detailed plans, and engineering and hydrogeological reports, as appropriate, describing alternate designs and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(ii) The double liner and leak (leachate) detection, collection, and removal system, if the waste pile must meet the requirements of § 264.251(c) of this rule. If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by § 264.251(d), (e), or (f) of this rule, submit appropriate information;

(iii) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system;

(iv) The construction quality assurance (CQA) plan if required under § 264.19 of this rule;

(v) Proposed action leakage rate, with rationale, if required under § 264.252 of this rule, and response action plan, if required under § 264.253 of this rule;

(2) Control of run-on;

(3) Control of run-off;

(4) Management of collection and holding units associated with run-on and run-off control systems; and

(5) Control of wind dispersal of particulate matter, where applicable;

(d) A description of how each waste pile, including the double liner system, leachate collection and removal system, leak detection system, cover system, and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of § 264.254(a), (b), and (c) of this rule. This information must be included in the inspection plan submitted under § 270.14(b)(5);

(e) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals;

(f) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of § 264.256 will be complied with;

(g) If incompatible wastes, or incompatible wastes and materials will be placed in a waste pile, an explanation of how § 264.257 will be complied with;

(h) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under § 264.258(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how § 264.310 (a) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under § 270.14(b)(13).

(i) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a waste pile that is not enclosed (as defined in § 264.250(c)) is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.259. This submission must address the following items as specified in § 264.259:

(1) The volume, physical, and chemical characteristics of the wastes to be disposed in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

- (2) The attenuative properties of underlying and surrounding soils or other materials;
- (3) The mobilizing properties of other materials co-disposed with these wastes; and
- (4) The effectiveness of additional treatment, design, or monitoring techniques.

§ 270.19 Specific Part B information requirements for incinerators

Except as § 264.340 of this rule and § 270.19(e) provide otherwise, owners and operators of facilities that incinerate hazardous waste must fulfill the requirements of (a), (b), or (c) of this section.

(a) When seeking an exemption under § 264.340 (b) or (c) of this rule (ignitable, corrosive, or reactive wastes only):

(1) Documentation that the waste is listed as a hazardous waste in Section 261, Subsection D of this rule, solely because it is ignitable (Hazard Code I) or corrosive (Hazard Code C) or both; or

(2) Documentation that the waste is listed as a hazardous waste in Section 261, Subsection D of this rule, solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5) of this rule, and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) Documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous waste under Section 261, Subsection C of this rule; or

(4) Documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in § 261.23(a) (1), (2), (3), (6), (7), or (8) of this rule, and that it will not be burned when other hazardous wastes are present in the combustion zone; or

(b) Submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with § 270.62; or

(c) In lieu of a trial burn, the applicant may submit the following information:

(1) An analysis of each waste or mixture of wastes to be burned including:

(i) Heat value of the waste in the form and composition in which it will be burned.

(ii) Viscosity (if applicable), or description of physical form of the waste.

(iii) An identification of any hazardous organic constituents listed in Section 261, appendix VIII, of this rule, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Section 261, appendix VIII, of this rule which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on appropriate analytical techniques.

(iv) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in § 260.11 of this rule and § 270.6.

(v) A quantification of those hazardous constituents in the waste which may be designated as POHC’s based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in § 264.343 of this rule.

(2) A detailed engineering description of the incinerator, including:

(i) Manufacturer’s name and model number of incinerator.

- (ii) Type of incinerator.
- (iii) Linear dimension of incinerator unit including cross sectional area of combustion chamber.
- (iv) Description of auxiliary fuel system (type/feed).
- (v) Capacity of prime mover.
- (vi) Description of automatic waste feed cutoff system(s).
- (vii) Stack gas monitoring and pollution control monitoring system.
- (viii) Nozzle and burner design.
- (ix) Construction materials.
- (x) Location and description of temperature, pressure, and flow indicating devices and control devices.

(3) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in paragraph (c)(1) of this section. This analysis should specify the POHC's which the applicant has identified in the waste for which a permit is sought, and any differences from the POHC's in the waste for which burn data are provided.

(4) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.

(5) A description of the results submitted from any previously conducted trial burn(s) including:

- (i) Sampling and analysis techniques used to calculate performance standards in § 264.343 of this rule,
- (ii) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement),

(6) The expected incinerator operation information to demonstrate compliance with §§ 264.343 and 264.345 of this rule including:

- (i) Expected carbon monoxide (CO) level in the stack exhaust gas.
- (ii) Waste feed rate.
- (iii) Combustion zone temperature.
- (iv) Indication of combustion gas velocity.
- (v) Expected stack gas volume, flow rate, and temperature.
- (vi) Computed residence time for waste in the combustion zone.
- (vii) Expected hydrochloric acid removal efficiency.
- (viii) Expected fugitive emissions and their control procedures.
- (ix) Proposed waste feed cut-off limits based on the identified significant operating parameters.

(7) Such supplemental information as the Director finds necessary to achieve the purposes of this paragraph.

(8) Waste analysis data, including that submitted in paragraph (c)(1) of this section, sufficient to allow the Director to specify as permit Principal Organic Hazardous Constituents (permit POHC's) those constituents for which destruction and removal efficiencies will be required.

(d) The Director *may* approve a permit application without a trial burn if he finds that:

- (1) The wastes are sufficiently similar; and
- (2) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under § 264.345 of this rule) operating conditions that will ensure that the performance standards in § 264.343 of this rule will be met by the incinerator.

(e) When an owner or operator of a hazardous waste incineration unit becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the air emission standards and limitations in 40 CFR Part 63, subpart EEE (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance under 40 CFR §§ 63.1207(j) and §§ 63.1210(d) documenting compliance with all applicable requirements of 40 CFR Part 63, Subpart EEE), the requirements of this section do not apply, except those provisions the Director determines are necessary to ensure compliance with §§ 264.345(a) and 264.345(c) of this rule if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events. Nevertheless, the Director may apply the provisions of this section, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(n), 270.32(b)(2), and 270.32(b)(3).

§ 270.20 Specific Part B information requirements for land treatment facilities

Except as otherwise provided in § 264.1, owners and operators of facilities that use land treatment to dispose of hazardous waste must provide the following additional information:

(a) A description of plans to conduct a treatment demonstration as required under § 264.272. The description must include the following information;

- (1) The wastes for which the demonstration will be made and the potential hazardous constituents in the waste;
- (2) The data sources to be used to make the demonstration (e.g., literature, laboratory data, field data, or operating data);
- (3) Any specific laboratory or field test that will be conducted, including:
 - (i) The type of test (e.g., column leaching, degradation);
 - (ii) Materials and methods, including analytical procedures;
 - (iii) Expected time for completion;
 - (iv) Characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices.

(b) A description of a land treatment program, as required under § 264.271. This information must be submitted with the plans for the treatment demonstration, and updated following the treatment demonstration. The land treatment program must address the following items:

- (1) The wastes to be land treated;
- (2) Design measures and operating practices necessary to maximize treatment in accordance with § 264.273(a) including:
 - (i) Waste application method and rate;
 - (ii) Measures to control soil pH;
 - (iii) Enhancement of microbial or chemical reactions;
 - (iv) Control of moisture content;
- (3) Provisions for unsaturated zone monitoring, including:
 - (i) Sampling equipment, procedures, and frequency;

- (ii) Procedures for selecting sampling locations;
 - (iii) Analytical procedures;
 - (iv) Chain of custody control;
 - (v) Procedures for establishing background values;
 - (vi) Statistical methods for interpreting results;
 - (vii) The justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for such selection in § 264.278(a);
- (4) A list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to § 264.13;
- (5) The proposed dimensions of the treatment zone;
- (c) A description of how the unit is or will be designed, constructed, operated, and maintained in order to meet the requirements of § 264.273. This submission must address the following items:
 - (1) Control of run-on;
 - (2) Collection and control of run-off;
 - (3) Minimization of run-off of hazardous constituents from the treatment zone;
 - (4) Management of collection and holding facilities associated with run-on and run-off control systems;
 - (5) Periodic inspection of the unit. This information should be included in the inspection plan submitted under § 270.14(b)(5);
 - (6) Control of wind dispersal of particulate matter, if applicable;
- (d) If food-chain crops are to be grown in or on the treatment zone of the land treatment unit, a description of how the demonstration required under § 264.276(a) will be conducted including:
 - (1) Characteristics of the food-chain crop for which the demonstration will be made.
 - (2) Characteristics of the waste, treatment zone, and waste application method and rate to be used in the demonstration;
 - (3) Procedures for crop growth, sample collection, sample analysis, and data evaluation;
 - (4) Characteristics of the comparison crop including the location and conditions under which it was or will be grown;
- (e) If food-chain crops are to be grown, and cadmium is present in the land-treated waste, a description of how the requirements of § 264.276(b) will be complied with;
- (f) A description of the vegetative cover to be applied to closed portions of the facility, and a plan for maintaining such cover during the post-closure care period, as required under § 264.280(a)(8) and § 264.280(c)(2). This information should be included in the closure plan and, where applicable, the post-closure care plan submitted under § 270.14(b)(13);
- (g) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of § 264.281 will be complied with;
- (h) If incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, an explanation of how § 264.282 will be complied with.
- (i) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.283. This submission must address the following items as specified in § 264.283:
 - (1) The volume, physical, and chemical characteristics of the wastes, including their

potential to migrate through soil or to volatilize or escape into the atmosphere;

- (2) The attenuative properties of underlying and surrounding soils or other materials;
- (3) The mobilizing properties of other materials co-disposed with these wastes; and
- (4) The effectiveness of additional treatment, design, or monitoring techniques.

§ 270.21 Specific Part B information requirements for landfills

Except as otherwise provided in § 264.1, owners and operators of facilities that dispose of hazardous waste in landfills must provide the following additional information:

- (a) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell;
- (b) Detailed plans and an engineering report describing how the landfill is designed and is or will be constructed, operated, and maintained to meet the requirements of §§ 264.19, 264.301, 264.302, and 264.303 of this rule, addressing the following items:

- (1)(i) The liner system (except for an existing portion of a landfill), if the landfill must meet the requirements of § 264.301(a) of this rule. If an exemption from the requirement for a liner is sought as provided by § 264.301(b) of this rule, submit detailed plans, and engineering and hydrogeological reports, as appropriate, describing alternate designs and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

- (ii) The double liner and leak (leachate) detection, collection, and removal system, if the landfill must meet the requirements of § 264.301(c) of this rule. If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by § 264.301(d), (e), or (f) of this rule, submit appropriate information;

- (iii) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system;

- (iv) The construction quality assurance (CQA) plan if required under § 264.19 of this rule;

- (v) Proposed action leakage rate, with rationale, if required under § 264.302 of this rule, and response action plan, if required under § 264.303 of this rule;

- (2) Control of run-on;

- (3) Control of run-off;

- (4) Management of collection and holding facilities associated with run-on and run-off control systems; and

- (5) Control of wind dispersal of particulate matter, where applicable;

- (c) A description of how each landfill, including the double liner system, leachate collection and removal system, leak detection system, cover system, and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of § 264.303(a), (b), and (c) of this rule. This information must be included in the inspection plan submitted under § 270.14(b)(5);

- (d) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet the requirements of § 264.303 (a) and (b). This information should be included in the inspection plan submitted under § 270.14(b)(5).

- (e) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with § 264.310(a), and a description of how

each landfill will be maintained and monitored after closure in accordance with § 264.310(b). This information should be included in the closure and post-closure plans submitted under § 270.14(b)(13).

(f) If ignitable or reactive wastes will be landfilled, an explanation of how the standards of § 264.312 will be complied with;

(g) If incompatible wastes, or incompatible wastes and materials will be landfilled, an explanation of how § 264.313 will be complied with;

(h) If bulk or non-containerized liquid waste or wastes containing free liquids is to be landfilled prior to May 8, 1985, an explanation of how the requirements of § 264.314(a) will be complied with;

(i) If containers of hazardous waste are to be landfilled, an explanation of how the requirements of § 264.315 or § 264.316, as applicable, will be complied with.

(j) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a landfill is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.317. This submission must address the following items as specified in § 264.317:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

§ 270.22 Specific Part B information requirements for boilers and industrial furnaces burning hazardous waste

When an owner or operator of a cement kiln, or lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace demonstrates compliance with the air emission standards and limitations in 40 CFR Part 63, subpart EEE, (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance under 40 CFR Part 63.1207(j) and 63.121(d) documenting compliance with all applicable requirements of part 63, subpart EEE,), the requirements of this section do not apply. The requirements of this section do apply, however, if the Director determines certain provisions are necessary to ensure compliance with §§ 266.102(e)(1) and 266.102(e)(2)(iii) of this Rule if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events; or if you are an area source and elect to comply with the §§ 266.105, 266.106, and 266.107 standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals; or the Director determines certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(k), 270.10(n), 270.32(b)(2), and 270.32(b)(3).

(a) Trial burns — (1) General. Except as provided below, owners and operators that are subject to the standards to control organic emissions provided by § 266.104 of this rule, standards to control particulate matter provided by § 266.105 of this rule, standards to control metals emissions provided by § 266.106 of this rule, or standards to control hydrogen chloride or chlorine gas

emissions provided by § 266.107 of this rule must conduct a trial burn to demonstrate conformance with those standards and must submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with § 270.66.

(i) A trial burn to demonstrate conformance with a particular emission standard may be waived under provisions of §§ 266.104 through 266.107 of this rule and paragraphs (a)(2) through (a)(5) of this section; and

(ii) The owner or operator may submit data in lieu of a trial burn, as prescribed in paragraph (a)(6) of this section.

(2) Waiver of trial burn for DRE-(i) Boilers operated under special operating requirements. When seeking to be permitted under §§ 266.104(a)(4) and 266.110 of this rule that automatically waive the DRE trial burn, the owner or operator of a boiler must submit documentation that the boiler operates under the special operating requirements provided by § 266.110 of this rule.

(ii) Boilers and industrial furnaces burning low risk waste. When seeking to be permitted under the provisions for low risk waste provided by §§ 266.104(a)(5) and 266.109(a) of this rule that waive the DRE trial burn, the owner or operator must submit:

(A) Documentation that the device is operated in conformance with the requirements of § 266.109(a)(1) of this rule.

(B) Results of analyses of each waste to be burned, documenting the concentrations of nonmetal compounds listed in appendix VIII of Section 261 of this rule, except for those constituents that would reasonably not be expected to be in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained. The analysis must rely on analytical techniques specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (incorporated by reference, see § 260.11).

(C) Documentation of hazardous waste firing rates and calculations of reasonable, worst-case emission rates of each constituent identified in paragraph (a)(2)(ii)(B) of this section using procedures provided by § 266.109(a)(2)(ii) of this rule.

(D) Results of emissions dispersion modeling for emissions identified in paragraphs (a)(2)(ii)(C) of this section using modeling procedures prescribed by § 266.106(h) of this rule. The Director will review the emission modeling conducted by the applicant to determine conformance with these procedures. The Director will either approve the modeling or determine that alternate or supplementary modeling is appropriate.

(E) Documentation that the maximum annual average ground level concentration of each constituent identified in paragraph (a)(2)(ii)(B) of this section quantified in conformance with paragraph (a)(2)(ii)(D) of this section does not exceed the allowable ambient level established in appendices IV or V of Section 266. The acceptable ambient concentration for emitted constituents for which a specific Reference Air Concentration has not been established in appendix IV or Risk-Specific Dose has not been established in appendix V is 0.1 micrograms per cubic meter, as noted in the footnote to appendix IV.

(3) Waiver of trial burn for metals. When seeking to be permitted under the Tier I (or adjusted Tier I) metals feed rate screening limits provided by § 266.106 (b) and (e) of this rule that control metals emissions without requiring a trial burn, the owner or operator must

submit:

- (i) Documentation of the feed rate of hazardous waste, other fuels, and industrial furnace feed stocks;
- (ii) Documentation of the concentration of each metal controlled by § 266.106 (b) or (e) of this rule in the hazardous waste, other fuels, and industrial furnace feedstocks, and calculations of the total feed rate of each metal;
- (iii) Documentation of how the applicant will ensure that the Tier I feed rate screening limits provided by § 266.106 (b) or (e) of this rule will not be exceeded during the averaging period provided by that paragraph;
- (iv) Documentation to support the determination of the terrain-adjusted effective stack height, good engineering practice stack height, terrain type, and land use as provided by § 266.106 (b)(3) through (b)(5) of this rule;
- (v) Documentation of compliance with the provisions of § 266.106(b)(6), if applicable, for facilities with multiple stacks;
- (vi) Documentation that the facility does not fail the criteria provided by § 266.106(b)(7) for eligibility to comply with the screening limits; and
- (vii) Proposed sampling and metals analysis plan for the hazardous waste, other fuels, and industrial furnace feed stocks.

(4) Waiver of trial burn for particulate matter. When seeking to be permitted under the low risk waste provisions of § 266.109(b) which waives the particulate standard (and trial burn to demonstrate conformance with the particulate standard), applicants must submit documentation supporting conformance with paragraphs (a)(2)(ii) and (a)(3) of this section.

(5) Waiver of trial burn for HCl and Cl₂. When seeking to be permitted under the Tier I (or adjusted Tier I) feed rate screening limits for total chloride and chlorine provided by § 266.107 (b)(1) and (e) of this rule that control emissions of hydrogen chloride (HCl) and chlorine gas (Cl₂) without requiring a trial burn, the owner or operator must submit:

- (i) Documentation of the feed rate of hazardous waste, other fuels, and industrial furnace feed stocks;
- (ii) Documentation of the levels of total chloride and chlorine in the hazardous waste, other fuels, and industrial furnace feedstocks, and calculations of the total feed rate of total chloride and chlorine;
- (iii) Documentation of how the applicant will ensure that the Tier I (or adjusted Tier I) feed rate screening limits provided by § 266.107 (b)(1) or (e) of this rule will not be exceeded during the averaging period provided by that paragraph;
- (iv) Documentation to support the determination of the terrain-adjusted effective stack height, good engineering practice stack height, terrain type, and land use as provided by § 266.107(b)(3) of this rule;
- (v) Documentation of compliance with the provisions of § 266.107(b)(4), if applicable, for facilities with multiple stacks;
- (vi) Documentation that the facility does not fail the criteria provided by § 266.107(b)(3) for eligibility to comply with the screening limits; and
- (vii) Proposed sampling and analysis plan for total chloride and chlorine for the hazardous waste, other fuels, and industrial furnace feedstocks.

(6) Data in lieu of trial burn. The owner or operator may seek an exemption from the trial burn requirements to demonstrate conformance with §§ 266.104 through 266.107 of this rule

and § 270.66 by providing the information required by § 270.66 from previous compliance testing of the device in conformance with § 266.103 of this rule, or from compliance testing or trial or operational burns of similar boilers or industrial furnaces burning similar hazardous wastes under similar conditions. If data from a similar device is used to support a trial burn waiver, the design and operating information required by § 270.66 must be provided for both the similar device and the device to which the data is to be applied, and a comparison of the design and operating information must be provided. The Director shall approve a permit application without a trial burn if he finds that the hazardous wastes are sufficiently similar, the devices are sufficiently similar, the operating conditions are sufficiently similar, and the data from other compliance tests, trial burns, or operational burns are adequate to specify (under § 266.102 of this rule) operating conditions that will ensure conformance with § 266.102(c) of this rule. In addition, the following information shall be submitted:

(i) For a waiver from any trial burn:

(A) A description and analysis of the hazardous waste to be burned compared with the hazardous waste for which data from compliance testing, or operational or trial burns are provided to support the contention that a trial burn is not needed;

(B) The design and operating conditions of the boiler or industrial furnace to be used, compared with that for which comparative burn data are available; and

(C) Such supplemental information as the Director finds necessary to achieve the purposes of this paragraph.

(ii) For a waiver of the DRE trial burn, the basis for selection of POHCs used in the other trial or operational burns which demonstrate compliance with the DRE performance standard in § 266.104(a) of this rule. This analysis should specify the constituents in appendix VIII, Section 261 of this rule, that the applicant has identified in the hazardous waste for which a permit is sought, and any differences from the POHCs in the hazardous waste for which burn data are provided.

(b) Alternative HC limit for industrial furnaces with organic matter in raw materials. Owners and operators of industrial furnaces requesting an alternative HC limit under § 266.104(f) of this rule shall submit the following information at a minimum:

(1) Documentation that the furnace is designed and operated to minimize HC emissions from fuels and raw materials;

(2) Documentation of the proposed baseline flue gas HC (and CO) concentration, including data on HC (and CO) levels during tests when the facility produced normal products under normal operating conditions from normal raw materials while burning normal fuels and when not burning hazardous waste;

(3) Test burn protocol to confirm the baseline HC (and CO) level including information on the type and flow rate of all feedstreams, point of introduction of all feedstreams, total organic carbon content (or other appropriate measure of organic content) of all nonfuel feedstreams, and operating conditions that affect combustion of fuel(s) and destruction of hydrocarbon emissions from nonfuel sources;

(4) Trial burn plan to:

(i) Demonstrate that flue gas HC (and CO) concentrations when burning hazardous waste do not exceed the baseline HC (and CO) level; and

(ii) Identify the types and concentrations of organic compounds listed in appendix VIII, Section 261 of this rule, that are emitted when burning hazardous waste in

conformance with procedures prescribed by the Director;

(5) Implementation plan to monitor over time changes in the operation of the facility that could reduce the baseline HC level and procedures to periodically confirm the baseline HC level; and

(6) Such other information as the Director finds necessary to achieve the purposes of this paragraph.

(c) Alternative metals implementation approach. When seeking to be permitted under an alternative metals implementation approach under § 266.106(f) of this rule, the owner or operator must submit documentation specifying how the approach ensures compliance with the metals emissions standards of § 266.106(c) or (d) and how the approach can be effectively implemented and monitored. Further, the owner or operator shall provide such other information that the Director finds necessary to achieve the purposes of this paragraph.

(d) Automatic waste feed cutoff system. Owners and operators shall submit information describing the automatic waste feed cutoff system, including any pre-alarm systems that may be used.

(e) Direct transfer. Owners and operators that use direct transfer operations to feed hazardous waste from transport vehicles (containers, as defined in § 266.111 of this rule) directly to the boiler or industrial furnace shall submit information supporting conformance with the standards for direct transfer provided by § 266.111 of this rule.

(f) Residues. Owners and operators that claim that their residues are excluded from rule under the provisions of § 266.112 of this rule must submit information adequate to demonstrate conformance with those provisions.

§ 270.23 Specific Part B information requirements for miscellaneous units

Except as otherwise provided in § 264.600, owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units must provide the following additional information:

(a) A detailed description of the unit being used or proposed for use, including the following:

(1) Physical characteristics, materials of construction, and dimensions of the unit;

(2) Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected, and closed to comply with the requirements of §§ 264.601 and 264.602; and

(3) For disposal units, a detailed description of the plans to comply with the post-closure requirements of § 264.603.

(b) Detailed hydrologic, geologic, and meteorologic assessments and land-use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in the environmental performance standards of § 264.601. If the applicant can demonstrate that he does not violate the environmental performance standards of § 264.601 and the Director agrees with such demonstration, preliminary hydrologic, geologic, and meteorologic assessments will suffice.

(c) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of such exposures.

(d) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.

(e) Any additional information determined by the Director to be necessary for evaluation of compliance of the unit with the environmental performance standards of § 264.601.

§ 270.24 Specific Part B information requirements for process vents

Except as otherwise provided in § 264.1, owners and operators of facilities that have process vents to which Subsection AA of Section 264 applies must provide the following additional information:

(a) For facilities that cannot install a closed-vent system and control device to comply with the provisions of Section 264 Subsection AA on the effective date that the facility becomes subject to the provisions of Sections 264 or 265 Subsection AA, an implementation schedule as specified in § 264.1033(a)(2).

(b) Documentation of compliance with the process vent standards in § 264.1032, including:

(1) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(2) Information and data supporting estimates of vent emissions and emission reduction achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, estimates of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or concentrations) that represent the conditions that exist when the waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(3) Information and data used to determine whether or not a process vent is subject to the requirements of § 264.1032.

(c) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with the requirements of § 264.1032, and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in § 264.1035(b)(3).

(d) Documentation of compliance with § 264.1033, including:

(1) A list of all information references and sources used in preparing the documentation.

(2) Records, including the dates, of each compliance test required by § 264.1033(k).

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of “APTI Course 415: Control of Gaseous Emissions” (incorporated by reference as specified in § 270.6) or other engineering texts acceptable to the Director that present basic control device design information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in § 264.1035(b)(4)(iii).

(4) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(5) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater unless the total organic

emission limits of § 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.

§ 270.25 Specific Part B information requirements for equipment

Except as otherwise provided in § 264.1, owners and operators of facilities that have equipment to which Subsection BB of Section 264 applies must provide the following additional information:

(a) For each piece of equipment to which Subsection BB of Section 264 applies:

- (1) Equipment identification number and hazardous waste management unit identification.
- (2) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).
- (3) Type of equipment (e.g., a pump or pipeline valve).
- (4) Percent by weight total organics in the hazardous waste stream at the equipment.
- (5) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).
- (6) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(b) For facilities that cannot install a closed-vent system and control device to comply with the provisions of Section 264, Subsection BB on the effective date that the facility becomes subject to the provisions of Section 264 or 265 Subsection BB, an implementation schedule as specified in § 264.1033(a)(2).

(c) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in § 264.1035(b)(3).

(d) Documentation that demonstrates compliance with the equipment standards in §§ 264.1052 to 264.1059. This documentation shall contain the records required under § 264.1064. The Director may request further documentation before deciding if compliance has been demonstrated.

(e) Documentation to demonstrate compliance with § 264.1060 shall include the following information:

- (1) A list of all information references and sources used in preparing the documentation.
- (2) Records, including the dates, of each compliance test required by § 264.1033(j).
- (3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of “ATPI Course 415: Control of Gaseous Emissions” (incorporated by reference as specified in § 270.6) or other engineering texts acceptable to the Director that present basic control device design information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in § 264.1035(b)(4)(iii).
- (4) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.
- (5) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater.

§ 270.26 Special Part B information requirements for drip pads

Except as otherwise provided by § 264.1 of this rule, owners and operators of hazardous waste treatment, storage, or disposal facilities that collect, store, or treat hazardous waste on drip pads must provide the following additional information:

- (a) A list of hazardous wastes placed or to be placed on each drip pad.
- (b) If an exemption is sought to Subsection F of Section 264 of this rule, as provided by § 264.90 of this rule, detailed plans and an engineering report describing how the requirements of § 264.90(b)(2) of this rule will be met.
- (c) Detailed plans and an engineering report describing how the drip pad is or will be designed, constructed, operated and maintained to meet the requirements of § 264.573 of this rule, including the as-built drawings and specifications. This submission must address the following items as specified in § 264.571 of this rule:
 - (1) The design characteristics of the drip pad;
 - (2) The liner system;
 - (3) The leakage detection system, including the leak detection system and how it is designed to detect the failure of the drip pad or the presence of any releases of hazardous waste or accumulated liquid at the earliest practicable time;
 - (4) Practices designed to maintain drip pads;
 - (5) The associated collection system;
 - (6) Control of run-on to the drip pad;
 - (7) Control of run-off from the drip pad;
 - (8) The interval at which drippage and other materials will be removed from the associated collection system and a statement demonstrating that the interval will be sufficient to prevent overflow onto the drip pad;
 - (9) Procedures for cleaning the drip pad at least once every seven days to ensure the removal of any accumulated residues of waste or other materials, including but not limited to rinsing, washing with detergents or other appropriate solvents, or steam cleaning and provisions for documenting the date, time, and cleaning procedure used each time the pad is cleaned.
 - (10) Operating practices and procedures that will be followed to ensure that tracking of hazardous waste or waste constituents off the drip pad due to activities by personnel or equipment is minimized;
 - (11) Procedures for ensuring that, after removal from the treatment vessel, treated wood from pressure and non-pressure processes is held on the drip pad until drippage has ceased, including recordkeeping practices;
 - (12) Provisions for ensuring that collection and holding units associated with the run-on and run-off control systems are emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system;
 - (13) If treatment is carried out on the drip pad, details of the process equipment used, and the nature and quality of the residuals.
 - (14) A description of how each drip pad, including appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of § 264.573 of this rule. This information should be included in the inspection plan submitted under § 270.14(b)(5) of this Section.

(15) A certification signed by *an independent qualified, Arkansas-registered professional engineer*, stating that the drip pad design meets the requirements of paragraphs (a) through (f) of § 264.573 of this rule.

(16) A description of how hazardous waste residues and contaminated materials will be removed from the drip pad at closure, as required under § 264.575(a) of this rule. For any waste not to be removed from the drip pad upon closure, the owner or operator must submit detailed plans and an engineering report describing how § 264.310 (a) and (b) of this rule will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under § 270.14(b)(13).

§ 270.27 Specific Part B information requirements for air emission controls for tanks, surface impoundments, and containers.

(a) Except as otherwise provided in § 264.1, owners and operators of tanks, surface impoundments, or containers that use air emission controls in accordance with the requirements of § 264, subsection CC shall provide the following additional information:

(1) Documentation for each floating roof cover installed on a tank subject to § 264.1084(d)(1) or § 264.1084(d)(2) that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the applicable design specifications as listed in § 264.1084(e)(1) or § 264.1084(f)(1).

(2) Identification of each container area subject to the requirements of § 264, subsection CC and certification by the owner or operator that the requirements of this subsection are met.

(3) Documentation for each enclosure used to control air pollutant emissions from tanks or containers in accordance with the requirements of § 264.1084(d)(5) or § 264.1086(e)(1)(ii) that includes records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B.

(4) Documentation for each floating membrane cover installed on a surface impoundment in accordance with the requirements of § 264.1085(c) that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in § 264.1085(c)(1).

(5) Documentation for each closed-vent system and control device installed in accordance with the requirements of § 264.1087 that includes design and performance information as specified in § 270.24(c) and (d) of this section.

(6) An emission monitoring plan for both Method 21 in 40 CFR part 60, appendix A and control device monitoring methods. This plan shall include the following information: Monitoring point(s), monitoring methods for control devices, monitoring frequency, procedures for documenting exceedances, and procedures for mitigating noncompliances.

(7) When an owner or operator of a facility subject to Rule No. 23, § 265, subsection CC cannot comply with § 264, subsection CC by the date of permit issuance, the schedule of implementation required under § 265.1082.

§ 270.28 Part B information requirements for post-closure permits

For post-closure permits, the owner or operator is required to submit only the information specified in §§270.14(b)(1), (4), (5), (6), (11), (13), (14), (16), (18) and (19), (c), and (d), unless the Director determines that additional information from §§ 270.14, 270.16, 270.17, 270.18, 270.20, or 270.21 is necessary. The owner or operator is required to submit the same information when an alternative authority is used in lieu of a post-closure permit as provided in § 270.1(c)(7).

§ 270.29 Permit Denial

The Director may, pursuant to the procedures in 40 CFR 124 (as incorporated by reference at § 3(b) of this Rule) and APC&EC Rule No. 8, deny the permit application either in its entirety or as to the active life of a hazardous waste management facility or unit only.

Subsection C – Permit Conditions

§ 270.30 Conditions applicable to all permits

The following conditions apply to all HWM permits, and shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these rules must be given in the permit.

(a) Duty to comply. The permittee must comply with all conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See § 270.61). Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of the appropriate Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(b) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(e) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(f) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any

permit condition.

(g) Property rights. The permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to provide information. The permittee shall furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(i) Inspection and entry. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

(1) Enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

(j) Monitoring and records. (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by § 264.73(b)(9) of this rule, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, certification, or application. This period may be extended by request of the Director at any time. The permittee shall maintain records from all ground-water monitoring wells and associated ground-water surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

(3) Records for monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(k) Signatory requirements. All applications, reports, or information submitted to the Director shall be signed and certified (See § 270.11.)

(l) Reporting requirements. (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

(2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or

dispose of hazardous waste in the modified portion of the facility except as provided in § 270.42, until:

(i) The permittee has submitted to the Director by certified mail or hand delivery a letter signed by the permittee and a *Arkansas-registered professional engineer* stating that the facility has been constructed or modified in compliance with the permit; and

(ii)(A) The Director has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(B) Within 15 days of the date of submission of the letter in paragraph (1)(2)(i) of this section, the permittee has not received notice from the Director of his or her intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, or disposal of hazardous waste.

(3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under RCRA. (See § 270.40)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting. (i) The permittee shall report any noncompliance which may endanger health or the environment orally within 24 hours from the time the permittee becomes aware of the circumstances, including:

(A) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

(B) Any information of a release or discharge of hazardous waste or of a fire or explosion from the HWM facility, which could threaten the environment or human health outside the facility.

(ii) The description of the occurrence and its cause shall include:

(A) Name, address, and telephone number of the owner or operator;

(B) Name, address, and telephone number of the facility;

(C) Date, time, and type of incident;

(D) Name and quantity of material(s) involved;

(E) The extent of injuries, if any;

(F) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(G) Estimated quantity and disposition of recovered material that resulted from the incident.

(iii) A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Director may waive the five day written notice requirement in favor of a written report within fifteen days.

(7) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen days, the permittee must submit a letter report, including a copy of the manifest, to the Director. (See § 264.72.)

(8) Unmanifested waste report: This report must be submitted to the Director within 15 days of receipt of unmanifested waste. (See § 264.76)

(9) *Annual* report: An *annual* report must be submitted covering facility activities during odd numbered calendar years. (See § 264.75.)

(10) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (1)(6) of this section.

(11) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

(m) Information repository. The Director may require the permittee to establish and maintain an information repository at any time, based on the factors set forth in § 270.7(f). The information repository will be governed by the provisions in 40 CFR 124.33(c) through (f).

§ 270.31 Requirements for recording and reporting of monitoring results

All permits shall specify:

(a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in Sections 264 and 266, and 40 CFR Parts 264, 266 and 267. Reporting shall be no less frequent than specified in the above rules.

§ 270.32 Establishing permit conditions

(a) In addition to conditions required in all permits (§ 270.30), the Director shall establish conditions, as required on a case-by-case basis, in permits under §§ 270.50 (duration of permits), 270.33(a) (schedules of compliance), 270.31 (monitoring), and for EPA issued permits only, 270.33(b) (alternate schedules of compliance) and 270.3 (considerations under Federal law).

(b)(1) Each HWM permit shall include permit conditions necessary to achieve compliance with the Act and rules, including each of the applicable requirements specified in Sections 264 and 266 through 268 of this rule. In satisfying this provision, the Director may incorporate applicable requirements of Sections 264 and 266 through 268 of this rule directly into the permit or establish other permit conditions that are based on these parts.

(2) Each permit issued under A.C.A. §§ 8-7-201 *et seq.* shall contain terms and conditions as the Director determines necessary to protect human health and the environment.

(3) If, as the result of an assessment(s) or other information, the Director determines that conditions are necessary in addition to those required under 40 CFR Part 63, subsection EEE, and Sections 264 or 266 of this Rule to ensure protection of human health and the

environment, he shall include those terms and conditions in a RCRA permit for a hazardous waste combustion unit.

(c) For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final rule) which takes effect prior to the issuance of the permit. 40 CFR 124.14 (reopening of comment period) provides a means for reopening EPA permit proceedings at the discretion of the Regional Administrator in coordination with the Director where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable. For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in § 270.41.

(d) New or reissued permits, and to the extent allowed under § 270.41, modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section and in Section 270.31.

(e) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable rules or requirements must be given in the permit.

§ 270.33 Schedules of compliance

(a) The permit may, when appropriate, specify a schedule of compliance leading to compliance with the Act and rules.

(1) Time for compliance. Any schedules of compliance under this section shall require compliance as soon as possible.

(2) Interim dates. Except as provided in paragraph (b)(1)(ii) of this section, if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(i) The time between interim dates shall not exceed 1 year.

(ii) If the time necessary for completion of any interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(3) Reporting. The permit shall be written to require that no later than 14 days following each interim date and the final date of compliance, the permittee shall notify the Director in writing, of its compliance or noncompliance with the interim or final requirements.

(b) Alternative schedules of compliance. A HWM permit applicant or permittee may cease conducting regulated activities (by receiving a terminal volume of hazardous waste and, for treatment and storage HWM facilities, closing pursuant to applicable requirements; and, for disposal HWM facilities, closing and conducting post-closure care pursuant to applicable requirements) rather than continue to operate and meet permit requirements as follows:

(1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

(i) The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

- (ii) The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.
- (2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.
- (3) If the permittee is undecided whether to cease conducting regulated activities, the Director may issue or modify a permit to contain two schedules as follows:
 - (i) Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities;
 - (ii) One schedule shall lead to timely compliance with applicable requirements;
 - (iii) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements;
 - (iv) Each permit containing two schedules shall include a requirement that after the permittee has made a final decision under paragraph (b)(3)(i) of this section it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.
- (4) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Director, such as resolution of the board of directors of a corporation.

§ 270.34 Health Monitoring and Hazard Identification

- (a) Prior to the operation of a new commercial hazardous waste management facility, the Division may request that the appropriate health agency have a survey conducted, at reasonable cost, to establish baseline health data. Such survey shall:*
 - (1) Be conducted by a person approved by both the Division and the health agency;*
 - (2) Investigate the prevalence of those health conditions deemed appropriate by the Division in consultation with the Arkansas Division of Health and other health agencies;*
 - (3) Be completed among a statistically representative portion of the population located within an area defined as likely to be impacted on the basis of information describing the type of facility, nature of the operation, type of waste managed and proximity to major water sources or other likely vehicles for dissemination in the environment.*
- (b) Whenever the Division finds that there exists a reasonable probability that emissions from any hazardous waste management facility are related to disease etiology, it shall have conducted pertinent epidemiologic investigations in order to ascertain early identification of unknown health hazards and to effect the appropriate corrective intervention. Such investigation shall be subject to the provisions of § 6(k) of this Rule and limited to reasonable cost.*

Subsection D – Changes to Permits

§ 270.40 Transfer of permits

(a) A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under § 270.40(b) or § 270.41(b)(2)) to identify the new permittee and incorporate such other requirements as may be necessary under the Arkansas Hazardous Waste Management Act (A.C.A. §§ 8-7-201 *et seq.*).

(b) Changes in the ownership or operational control of a facility may be made as a Class 1 modification with prior written approval of the Director in accordance with § 270.42 or as a routine change with prior approval under 40 CFR 124.213. The new owner or operator must submit a revised permit application no later than 90 days prior to the scheduled change. A written agreement containing a specific date for transfer of permit responsibility between the current and new permittees must also be submitted to the Director. When a transfer of ownership or operational control occurs, the old owner or operator shall comply with the requirements of Section 264, Subsection H (Financial Requirements) until the new owner or operator has demonstrated that he or she is complying with the requirements of that Subsection. The new owner or operator must demonstrate compliance with Subsection H requirements *not later than* the date of the change of ownership or operational control of the facility. Upon demonstration to the Director by the new owner or operator of compliance with Subsection H, the Director shall notify the old owner or operator that he or she no longer needs to comply with Subsection H as of the date of demonstration.

§ 270.41 Modification or revocation and reissuance of permits

When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see § 270.30), receives a request for revocation and reissuance under 40 CFR 124.5 or conducts a review of the permit file), he or she may determine whether one or more of the causes listed in paragraphs (a) and (b) of this section for modification, or revocation and reissuance or both exist. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. (See 40 CFR 124.5(c)(2).) If cause does not exist under this section, the Director shall not modify or revoke and reissue the permit, except on request of the permittee. If a permit modification is requested by the permittee, the Director shall approve or deny the request according to the procedures of Section 270.42. If a permit modification is requested by the permittee, the Director shall approve or deny the request according to the procedures of § 270.42, or § 270.320 and 40 CFR Part 124, Subpart G. Otherwise, a draft permit must be prepared and other procedures in 40 CFR 124 and APC&EC Rule No. 8 followed.

(a) Causes for modification. The following are causes for modification, but not revocation and reissuance, of permits; the following may be causes for revocation and reissuance, as well as modification, when the permittee requests or agrees.

(1) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(2) Information. The Director has received information. Permits may be modified during

their terms for this cause only if the information was not available at the time of permit issuance (other than revised rules, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

(3) New statutory requirements or rules. The standards or rules on which the permit was based have been changed by statute, through promulgation of new or amended standards or rules, or by judicial decision after the permit was issued.

(4) Compliance schedules. The Director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(5) Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the Director under § 270.50(d), the Director shall modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in Sections 260 through 266, and 270.

(b) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

(1) Cause exists for termination under § 270.43, and the Director determines that modification or revocation and reissuance is appropriate.

(2) The Director has received notification (as required in the permit, see § 270.30(1)(3)) of a proposed transfer of the permit.

(3) The Director has received notification under 40 CFR Part 124.202(b) of a facility owner or operator's intent to be covered by a standardized permit.

(c) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

§ 270.42 Permit modification at the request of the Permittee

(a) Class 1 modifications. (1) Except as provided in paragraph (a)(2) of this section, the permittee may put into effect Class 1 modifications listed in appendix I of this section under the following conditions:

(i) The permittee must notify the Director concerning the modification by certified mail or other means that establish proof of delivery within 7 calendar days after the change is put into effect. This notice must specify the changes being made to permit conditions or supporting documents referenced by the permit and must explain why they are necessary. Along with the notice, the permittee must provide the applicable information required by §§ 270.13 through 270.21, 270.62, and 270.63.

(ii) The permittee must send a notice of the modification to all persons on the facility mailing list, maintained by the Director in accordance with 40 CFR 124.10(c)(viii), and the appropriate units of State and local government, as specified in 40 CFR 124.10(c)(ix). This notification must be made within 90 calendar days after the change is put into effect. For the Class I modifications that require prior Director approval, the notification must be made within 90 calendar days after the Director approves the

request.

(iii) Any person may request the Director to review, and the Director may for cause reject, any Class 1 modification. The Director must inform the permittee by certified mail that a Class 1 modification has been rejected, explaining the reasons for the rejection. If a Class 1 modification has been rejected, the permittee must comply with the original permit conditions.

(2) Class 1 permit modifications identified in appendix I by an asterisk may be made only with the prior written approval of the Director.

(3) For a Class 1 permit modification, the permittee may elect to follow the procedures in § 270.42(b) for Class 2 modifications instead of the Class 1 procedures. The permittee must inform the Director of this decision in the notice required in § 270.42(b)(1).

(b) Class 2 modifications. (1) For Class 2 modifications, listed in appendix I of this section, the permittee must submit a modification request to the Director that:

- (i) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;
- (ii) Identifies that the modification is a Class 2 modification;
- (iii) Explains why the modification is needed; and
- (iv) Provides the applicable information required by §§ 270.13 through 270.21, 270.62, and 270.63.

(2) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Director and to the appropriate units of State and local government as specified in 40 CFR 124.10(c)(1)(ix) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within 7 days before or after the date of submission of the modification request, and the permittee must provide to the Director evidence of the mailing and publication. The notice must include:

- (i) Announcement of a 60-day comment period, in accordance with § 270.42(b)(5), and the name and address of a Division contact to whom comments must be sent;
- (ii) Announcement of the date, time, and place for a public meeting held in accordance with § 270.42(b)(4);
- (iii) Name and telephone number of the permittee's contact person;
- (iv) Name and telephone number of a Division contact person;
- (v) Location where copies of the modification request and any supporting documents can be viewed and copied; and
- (vi) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the Division contact person."

(3) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

(4) The permittee must hold a public meeting no earlier than 15 days after the publication of the notice required in paragraph (b)(2) of this section and no later than 15 days before the close of the 60-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(5) The public shall be provided 60 days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the Agency contact identified in the public

notice.

(6)(i) No later than 90 days after receipt of the notification request, the Director must:

(A) Approve the modification request, with or without changes, and modify the permit accordingly;

(B) Deny the request;

(C) Determine that the modification request must follow the procedures in § 270.42(c) for Class 3 modifications for the following reasons:

(1) There is significant public concern about the proposed modification; or

(2) The complex nature of the change requires the more extensive procedures of Class 3.

(D) Approve the request, with or without changes, as a temporary authorization having a term of up to 180 days, or

(E) Notify the permittee that he or she will decide on the request within the next 30 days.

(ii) If the Director notifies the permittee of a 30-day extension for a decision, the Director must, no later than 120 days after receipt of the modification request:

(A) Approve the modification request, with or without changes, and modify the permit accordingly;

(B) Deny the request; or

(C) Determine that the modification request must follow the procedures in § 270.42(c) for Class 3 modifications for the following reasons:

(1) There is significant public concern about the proposed modification; or

(2) The complex nature of the change requires the more extensive procedures of Class 3.

(D) Approve the request, with or without changes, as a temporary authorization having a term of up to 180 days.

(iii) If the Director fails to make one of the decisions specified in paragraph (b)(6)(ii) of this section by the 120th day after receipt of the modification request, the permittee is automatically authorized to conduct the activities described in the modification request for up to 180 days, without formal Agency action. The authorized activities must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of Section 270 of this rule. If the Director approves, with or without changes, or denies the modification request during the term of the temporary or automatic authorization provided for in paragraphs (b)(6) (i), (ii), or (iii) of this section, such action cancels the temporary or automatic authorization.

(iv)(A) In the case of an automatic authorization under paragraph (b)(6)(iii) of this section, or a temporary authorization under paragraph (b)(6) (i)(D) or (ii)(D) of this section, if the Director has not made a final approval or denial of the modification request by the date 50 days prior to the end of the temporary or automatic authorization, the permittee must within seven days of that time send a notification to persons on the facility mailing list, and make a reasonable effort to notify other persons who submitted written comments on the modification request, that:

(1) The permittee has been authorized temporarily to conduct the activities described in the permit modification request, and

(2) Unless the Director acts to give final approval or denial of the request by the end of the authorization period, the permittee will receive

authorization to conduct such activities for the life of the permit.

(B) If the owner/operator fails to notify the public by the date specified in paragraph (b)(6)(iv)(A) of this section, the effective date of the permanent authorization will be deferred until 50 days after the owner/operator notifies the public.

(v) Except as provided in paragraph (b)(6)(vii) of this section, if the Director does not finally approve or deny a modification request before the end of the automatic or temporary authorization period or reclassify the modification as a Class 3, the permittee is authorized to conduct the activities described in the permit modification request for the life of the permit unless modified later under § 270.41 or § 270.42. The activities authorized under this paragraph must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of Section 265 and 40 CFR part 265.

(vi) In making a decision to approve or deny a modification request, including a decision to issue a temporary authorization or to reclassify a modification as a Class 3, the Director must consider all written comments submitted to the Agency during the public comment period and must respond in writing to all significant comments in his or her decision.

(vii) With the written consent of the permittee, the Director may extend indefinitely or for a specified period the time periods for final approval or denial of a modification request or for reclassifying a modification as a Class 3.

(7) The Director may deny or change the terms of a Class 2 permit modification request under paragraphs (b)(6) (i) through (iii) of this section for the following reasons:

- (i) The modification request is incomplete;
- (ii) The requested modification does not comply with the appropriate requirements of Section 264 or 40 CFR part 264 or other applicable requirements; or
- (iii) The conditions of the modification fail to protect human health and the environment.

(8) The permittee may perform any construction associated with a Class 2 permit modification request beginning 60 days after the submission of the request unless the Director establishes a later date for commencing construction and informs the permittee in writing before day 60.

(c) Class 3 modifications. (1) For Class 3 modifications listed in appendix I of this section, the permittee must submit a modification request to the Director that:

- (i) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;
- (ii) Identifies that the modification is a Class 3 modification;
- (iii) Explains why the modification is needed; and
- (iv) Provides the applicable information required by §§ 270.13 through 270.22, 270.62, 270.63, and 270.66 of this rule.

(2) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Director and to the appropriate units of State and local government as specified in 40 CFR 124.10(c)(ix) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within seven days before or after the date of submission of the modification request, and the permittee must provide to the Director evidence of the mailing and publication. The notice must include:

- (i) Announcement of a 60-day comment period, and a name and address of a Division contact to whom comments must be sent;
- (ii) Announcement of the date, time, and place for a public meeting on the modification request, in accordance with § 270.42(c)(4);
- (iii) Name and telephone number of the permittee's contact person;
- (iv) Name and telephone number of a Division contact person;
- (v) Location where copies of the modification request and any supporting documents can be viewed and copied; and
- (vi) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the Division contact person."

(3) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

(4) The permittee must hold a public meeting no earlier than 15 days after the publication of the notice required in paragraph (c)(2) of this section and no later than 15 days before the close of the 60-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(5) The public shall be provided at least 60 days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the Division contact identified in the notice.

(6) After the conclusion of the 60-day comment period, the Director must grant or deny the permit modification request according to the permit modification procedures of Rule No. 8 and 40 CFR Part 124. In addition, the Director must consider and respond to all significant written comments received during the 60-day comment period.

(d) Other modifications. (1) In the case of modifications not explicitly listed in Appendix I of this section, the permittee may submit a Class 3 modification request to the Division, or he or she may request a determination by the Director that the modification should be reviewed and approved as a Class 1 or Class 2 modification. If the permittee requests that the modification be classified as a Class 1 or 2 modification, he or she must provide the Division with the necessary information to support the requested classification.

(2) The Director shall make the determination described in paragraph (d)(1) of this section as promptly as practicable. In determining the appropriate class for a specific modification, the Director shall consider the similarity of the modification to other modifications codified in appendix I and the following criteria:

(i) Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the Director may require prior approval.

(ii) Class 2 modifications apply to changes that are necessary to enable a permittee to respond, in a timely manner, to,

(A) Common variations in the types and quantities of the wastes managed under the facility permit,

(B) Technological advancements, and

(C) Changes necessary to comply with new rules, where these changes can be implemented without substantially changing design specifications or management

practices in the permit.

(iii) Class 3 modifications substantially alter the facility or its operation.

(e) Temporary authorizations. (1) Upon request of the permittee, the Director may, without prior public notice and comment, grant the permittee a temporary authorization in accordance with this subsection. Temporary authorizations must have a term of not more than 180 days.

(2)(i) The permittee may request a temporary authorization for:

(A) Any Class 2 modification meeting the criteria in paragraph (e)(3)(ii) of this section, and

(B) Any Class 3 modification that meets the criteria in paragraph (3)(ii) (A) or (B) of this section; or that meets the criteria in paragraphs

(3)(ii) (C) through (E) of this section and provides improved management or treatment of a hazardous waste already listed in the facility permit.

(ii) The temporary authorization request must include:

(A) A description of the activities to be conducted under the temporary authorization;

(B) An explanation of why the temporary authorization is necessary; and

(C) Sufficient information to ensure compliance with the standards in § 264 of this rule.

(iii) The permittee must send a notice about the temporary authorization request to all persons on the facility mailing list maintained by the Director and to appropriate units of State and local governments as specified in 40 CFR 124.10(c)(ix). This notification must be made within seven days of submission of the authorization request.

(3) The Director shall approve or deny the temporary authorization as quickly as practical. To issue a temporary authorization, the Director must find:

(i) The authorized activities are in compliance with the standards of § 264 of this rule.

(ii) The temporary authorization is necessary to achieve one of the following objectives before action is likely to be taken on a modification request:

(A) To facilitate timely implementation of closure or corrective action activities;

(B) To allow treatment or storage in tanks or containers, or in containment buildings in accordance with § 268;

(C) To prevent disruption of ongoing waste management activities;

(D) To enable the permittee to respond to sudden changes in the types or quantities of the wastes managed under the facility permit; or

(E) To facilitate other changes to protect human health and the environment.

(4) A temporary authorization may be reissued for one additional term of up to 180 days provided that the permittee has requested a Class 2 or 3 permit modification for the activity covered in the temporary authorization, and:

(i) The reissued temporary authorization constitutes the Director's decision on a Class 2 permit modification in accordance with paragraph (b)(6)(i)(D) or (ii)(D) of this section, or

(ii) The Director determines that the reissued temporary authorization involving a Class 3 permit modification request is warranted to allow the authorized activities to continue while the modification procedures of paragraph (c) of this section are conducted.

(f) Public notice and appeals of permit modification decisions. (1) The Director shall notify

persons on the facility mailing list and appropriate units of State and local government within 10 days of any decision under this section to grant or deny a Class 2 or 3 permit modification request. The Director shall also notify such persons within 10 days after an automatic authorization for a Class 2 modification goes into effect under § 270.42(b)(6) (iii) or (v).

(2) The Director's decision to grant or deny a Class 2 or 3 permit modification request under this section may be appealed under the permit appeal procedures of APC&EC Rule No. 8 and 40 CFR 124.19.

(3) An automatic authorization that goes into effect under § 270.42(b)(6) (iii) or (v) may be appealed under the permit appeal procedures of 40 CFR 124.19; however, the permittee may continue to conduct the activities pursuant to the automatic authorization until the appeal has been granted pursuant to § 124.19(c), notwithstanding the provisions of § 124.15(b).

(g) Newly regulated wastes and units. (1) The permittee is authorized to continue to manage wastes listed or identified as hazardous under Section 261 of this Rule, or to continue to manage hazardous waste in units newly regulated as hazardous waste management units, if:

(i) The unit was in existence as a hazardous waste facility with respect to the newly listed or characterized waste or newly regulated waste management unit on the effective date of the final rule listing or identifying the waste, or regulating the unit;

(ii) The permittee submits a Class 1 modification request on or before the date on which the waste or unit becomes subject to the new requirements;

(iii) The permittee is in compliance with the applicable standards of Sections 265 and 266 of this chapter;

(iv) The permittee also submits a complete Class 2 or 3 modification request within 180 days of the effective date of the rule listing or identifying the waste, or subjecting the unit to hazardous waste management standards;

(v) In the case of land disposal units, the permittee certifies that each such unit is in compliance with all applicable requirements of Section 265 of this chapter for groundwater monitoring and financial responsibility on the date 12 months after the effective date of the rule identifying or listing the waste as hazardous, or regulating the unit as a hazardous waste management unit. If the owner or operator fails to certify compliance with all these requirements, he or she will lose authority to operate under this section.

(2) New wastes or units added to a facility's permit under this subsection do not constitute expansions for the purpose of the 25 percent capacity expansion limit for Class 2 modifications.

(h) Military hazardous waste munitions treatment and disposal. The permittee is authorized to continue to accept waste military munitions notwithstanding any permit conditions barring the permittee from accepting off-site wastes, if:

(1) The facility was in existence as a hazardous waste facility, and the facility was already permitted to handle the waste military munitions, on the date when the waste military munitions became subject to hazardous waste regulatory requirements;

(2) On or before the date when the waste military munitions become subject to hazardous waste regulatory requirements, the permittee submits a Class 1 modification request to remove or amend the permit provision restricting the receipt of off-site waste munitions; and

(3) The permittee submits a complete Class 2 modification request within 180 days of the date when the waste military munitions became subject to hazardous waste regulatory

requirements.

(i) Permit modification list. The Director must maintain a list of all approved permit modifications and must publish a notice once a year in a State-wide newspaper that an updated list is available for review.

(j) Combustion facility changes to meet 40 CFR Part 63 MACT standards. The following procedures apply to hazardous waste combustion facility permit modifications requested under Appendix I of this section, section L(9).

(1) Facility owners or operators must have complied with the Notification of Intent to Comply (NIC) requirements of 40 CFR 63.1210 that were in effect prior to October 11, 2000 (See 40 CFR Part 63 §§ 63.1200–63.1499 Revised as of July 1, 2000) in order to request a permit modification under this section for the purpose of technology changes needed to meet the standards under 40 CFR Part 63.1203, 63.1204, and 63.1205.

(2) Facility owners or operators must comply with the Notification of Intent to Comply (NIC) requirements of 40 CFR Part 63.1210(b) and 63.1212(a) before a permit modification can be requested under this section for the purpose of technology changes needed to meet the 40 CFR Part 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221 standards promulgated on October 12, 2005.

(3) If the Director does not approve or deny the request within 90 days of receiving it, the request shall be deemed approved. The Director may, at his or her discretion, extend this 90 day deadline one time for up to 30 days by notifying the facility owner or operator.

(k) Waiver of RCRA permit conditions in support of transition to the 40 CFR Part 63 MACT standards.

(1) You may request to have specific RCRA operating and emissions limits waived by submitting a Class 1 permit modification request under Appendix I of this section, section L(10). You must:

(i) Identify the specific RCRA permit operating and emissions limits which you are requesting to waive;

(ii) Provide an explanation of why the changes are necessary in order to minimize or eliminate conflicts between the RCRA permit and MACT compliance; and

(iii) Discuss how the revised provisions will be sufficiently protective.

(iv) The Director shall approve or deny the request within 30 days of receipt of the request. The Director may, at his or her discretion, extend this 30 day deadline one time for up to 30 days by notifying the facility owner or operator.

(2) To request this modification in conjunction with MACT performance testing where permit limits may only be waived during actual test events and pretesting, as defined under 40 CFR Part 63.1207(h)(2)(i) and (ii), for an aggregate time not to exceed 720 hours of operation (renewable at the discretion of the Director) you must:

(i) Submit your modification request to the Director at the same time you submit your test plans to the EPA Regional Administrator; and

(ii) The Director may elect to approve or deny the request contingent upon approval of the test plans.

(l) [Reserved]

Appendix I to § 270.42----- Classification of Permit Modifications

| Modifications | Class |
|---|----------------|
| <i>A. General Permit Provisions</i> | |
| 1. Administrative and informational changes | 1 |
| 2. Correction of typographical errors | 1 |
| 3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls) | 1 |
| 4. Changes in the frequency of or procedures for monitoring, reporting, sampling, or maintenance activities by the permittee: | |
| a. To provide for more frequent monitoring, reporting, sampling, or maintenance | 1 |
| b. Other changes | 2 |
| 5. Schedule of compliance: | |
| a. Changes in interim compliance dates, with prior approval of the Director | ¹ 1 |
| b. Extension of final compliance date | 3 |
| 6. Changes in expiration date of permit to allow earlier permit termination, with prior approval of the Director | ¹ 1 |
| 7. Changes in ownership or operational control of a facility, provided the procedures of §270.40(b) are followed | ¹ 1 |
| 8. Changes to remove permit conditions that are no longer applicable (<i>i.e.</i> , because the standards upon which they are based are no longer applicable to the facility). | ¹ 1 |
| 9. Changes to remove permit conditions applicable to a unit excluded under the provisions of §261.4. | ¹ 1 |
| 10. Changes in the expiration date of a permit issued to a facility at which all units are excluded under the provisions of §261.4. | ¹ 1 |
| <i>B. General Facility Standards</i> | |
| 1. Changes to waste sampling or analysis methods: | |
| a. To conform with agency guidance or rules | 1 |
| b. To incorporate changes associated with F039 (multi-source leachate) sampling or analysis methods | 1 |
| c. To incorporate changes associated with underlying hazardous constituents in ignitable or corrosive wastes | ¹ 1 |
| d. Other changes | 2 |
| 2. Changes to analytical quality assurance/control plan: | |
| a. To conform with agency guidance or rules | 1 |

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| b. Other changes | 2 |
| 3. Changes in procedures for maintaining the operating record | 1 |
| 4. Changes in frequency or content of inspection schedules | 2 |
| 5. Changes in the training plan: | |
| a. That affect the type or decrease the amount of training given to employees | 2 |
| b. Other changes | 1 |
| 6. Contingency plan: | |
| a. Changes in emergency procedures (<i>i.e.</i> , spill or release response procedures) | 2 |
| b. Replacement with functionally equivalent equipment, upgrade, or relocate emergency equipment listed | 1 |
| c. Removal of equipment from emergency equipment list | 2 |
| d. Changes in name, address, or phone number of coordinators or other persons or agencies identified in the plan | 1 |
| 7. Construction quality assurance plan: | |
| a. Changes that the CQA officer certifies in the operating record will provide equivalent or better certainty that the unit components meet the design specifications | 1 |
| b. Other changes | 2 |
| NOTE: When a permit modification (such as introduction of a new unit) requires a change in facility plans or other general facility standards, that change shall be reviewed under the same procedures as the permit modification. | |
| <i>C. Ground-Water Protection</i> | |
| 1. Changes to wells: | |
| a. Changes in the number, location, depth, or design of upgradient or downgradient wells of permitted ground-water monitoring system | 2 |
| b. Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design, or depth of the well | 1 |
| 2. Changes in ground-water sampling or analysis procedures or monitoring schedule, with prior approval of the Director | ¹ 1 |
| 3. Changes in statistical procedure for determining whether a statistically significant change in ground-water quality between upgradient and downgradient wells has occurred, with prior approval of the Director | ¹ 1 |
| 4. Changes in point of compliance | 2 |
| 5. Changes in indicator parameters, hazardous constituents, or concentration limits | |

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| (including ACLs): | |
| a. As specified in the groundwater protection standard | 3 |
| b. As specified in the detection monitoring program | 2 |
| 6. Changes to a detection monitoring program as required by §264.98(h), unless otherwise specified in this appendix | 2 |
| 7. Compliance monitoring program: | |
| a. Addition of compliance monitoring program as required by §§264.98(g)(4) and 264.99 | 3 |
| b. Changes to a compliance monitoring program as required by §264.99(j), unless otherwise specified in this appendix | 2 |
| 8. Corrective action program: | |
| a. Addition of a corrective action program as required by §§264.99(h)(2) and 264.100 | 3 |
| b. Changes to a corrective action program as required by §264.100(h), unless otherwise specified in this appendix | 2 |
| <i>D. Closure</i> | |
| 1. Changes to the closure plan: | |
| a. Changes in estimate of maximum extent of operations or maximum inventory of waste on-site at any time during the active life of the facility, with prior approval of the Director | ¹ 1 |
| b. Changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the Director | ¹ 1 |
| c. Changes in the expected year of final closure, where other permit conditions are not changed, with prior approval of the Director | ¹ 1 |
| d. Changes in procedures for decontamination of facility equipment or structures, with prior approval of the Director | ¹ 1 |
| e. Changes in approved closure plan resulting from unexpected events occurring during partial or final closure, unless otherwise specified in this appendix | 2 |
| f. Extension of the closure period to allow a landfill, surface impoundment or land treatment unit to receive non-hazardous wastes after final receipt of hazardous wastes under §264.113 (d) and (e) | 2 |
| 2. Creation of a new landfill unit as part of closure | 3 |
| 3. Addition of the following new units to be used temporarily for closure activities: | |
| a. Surface impoundments | 3 |

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| b. Incinerators | 3 |
| c. Waste piles that do not comply with §264.250(c) | 3 |
| d. Waste piles that comply with §264.250(c) | 2 |
| e. Tanks or containers (other than specified below) | 2 |
| f. Tanks used for neutralization, dewatering, phase separation, or component separation, with prior approval of the Director | ¹ 1 |
| g. Staging piles | 2 |
| <i>E. Post-Closure</i> | |
| 1. Changes in name, address, or phone number of contact in post-closure plan | 1 |
| 2. Extension of post-closure care period | 2 |
| 3. Reduction in the post-closure care period | 3 |
| 4. Changes to the expected year of final closure, where other permit conditions are not changed | 1 |
| 5. Changes in post-closure plan necessitated by events occurring during the active life of the facility, including partial and final closure | 2 |
| <i>F. Containers</i> | |
| 1. Modification or addition of container units: | |
| a. Resulting in greater than 25% increase in the facility's container storage capacity, except as provided in F(1)(c) and F(4)(a) below | 3 |
| b. Resulting in up to 25% increase in the facility's container storage capacity, except as provided in F(1)(c) and F(4)(a) below | 2 |
| c. Or treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards or to treat wastes to satisfy (in whole or in part) the standard of “use of practically available technology that yields the greatest environmental benefit” contained in §268.8(a)(2)(ii), with prior approval of the Director. This modification may also involve addition of new waste codes or narrative descriptions of wastes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | ¹ 1 |
| 2. | |
| a. Modification of a container unit without increasing the capacity of the unit | 2 |
| b. Addition of a roof to a container unit without alteration of the containment system | 1 |
| 3. Storage of different wastes in containers, except as provided in (F)(4) below: | |
| a. That require additional or different management practices from those | 3 |

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| authorized in the permit | |
| b. That do not require additional or different management practices from those authorized in the permit | 2 |
| Note: See §270.42(g) for modification procedures to be used for the management of newly listed or identified wastes. | |
| 4. Storage or treatment of different wastes in containers: | |
| a. That require addition of units or change in treatment process or management standards, provided that the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards, or that are to be treated to satisfy (in whole or in part) the standard of “use of practically available technology that yields the greatest environmental benefit” contained in §268.8(a)(2)(ii). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | ¹ 1 |
| b. That do not require the addition of units or a change in the treatment process or management standards, and provided that the units have previously received wastes of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | ¹ 1 |
| <i>G. Tanks</i> | |
| 1. | |
| a. Modification or addition of tank units resulting in greater than 25% increase in the facility's tank capacity, except as provided in G(1)(c), G(1)(d), and G(1)(e) below | 3 |
| b. Modification or addition of tank units resulting in up to 25% increase in the facility's tank capacity, except as provided in G(1)(d) and G(1)(e) below | 2 |
| c. Addition of a new tank that will operate for more than 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation | 2 |
| d. After prior approval of the Director, addition of a new tank that will operate for up to 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation | ¹ 1 |
| e. Modification or addition of tank units or treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards or to treat wastes to satisfy (in whole or in part) the standard of “use of practically available technology that yields the greatest environmental benefit” contained in §268.8(a)(2)(ii), with prior approval of the Director. This modification may also involve addition of new waste codes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | ¹ 1 |

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| 2. Modification of a tank unit or secondary containment system without increasing the capacity of the unit | 2 |
| 3. Replacement of a tank with a tank that meets the same design standards and has a capacity within $\pm 10\%$ of the replaced tank provided | 1 |
| —The capacity difference is no more than 1500 gallons, | |
| —The facility's permitted tank capacity is not increased, and | |
| —The replacement tank meets the same conditions in the permit. | |
| 4. Modification of a tank management practice | 2 |
| 5. Management of different wastes in tanks: | |
| a. That require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process from that authorized in the permit, except as provided in (G)(5)(c) below | 3 |
| b. That do not require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process than authorized in the permit, except as provided in (G)(5)(d) | 2 |
| c. That require addition of units or change in treatment processes or management standards, provided that the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards or that are to be treated to satisfy (in whole or in part) the standard of “use of practically available technology that yields the greatest environmental benefit” contained in §268.8(a)(2)(ii). The modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | ¹ 1 |
| d. That do not require the addition of units or a change in the treatment process or management standards, and provided that the units have previously received wastes of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | 1 |
| Note: See §270.42(g) for modification procedures to be used for the management of newly listed or identified wastes. | |
| H. Surface Impoundments | |
| 1. Modification or addition of surface impoundment units that result in increasing the facility's surface impoundment storage or treatment capacity | 3 |
| 2. Replacement of a surface impoundment unit | 3 |
| 3. Modification of a surface impoundment unit without increasing the facility's surface impoundment storage or treatment capacity and without modifying the unit's liner, leak detection system, or leachate collection system | 2 |
| 4. Modification of a surface impoundment management practice | 2 |

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| 5. Treatment, storage, or disposal of different wastes in surface impoundments: | |
| a. That require additional or different management practices or different design of the liner or leak detection system than authorized in the permit | 3 |
| b. That do not require additional or different management practices or different design of the liner or leak detection system than authorized in the permit | 2 |
| c. That are wastes restricted from land disposal that meet the applicable treatment standards or that are treated to satisfy the standard of “use of practically available technology that yields the greatest environmental benefit” contained in §269.8(a)(2)(ii), and provided that the unit meets the minimum technological requirements stated in §268.5(h)(2). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | 1 |
| d. That are residues from wastewater treatment or incineration, provided that disposal occurs in a unit that meets the minimum technological requirements stated in §268.5(h)(2), and provided further that the surface impoundment has previously received wastes of the same type (for example, incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | 1 |
| 6. Modifications of unconstructed units to comply with §§264.221(c), 264.222, 264.223, and 264.226(d) | ¹ 1 |
| 7. Changes in response action plan: | |
| a. Increase in action leakage rate | 3 |
| b. Change in a specific response reducing its frequency or effectiveness | 3 |
| c. Other changes | 2 |
| Note: See §270.42(g) for modification procedures to be used for the management of newly listed or identified wastes | |
| I. Enclosed Waste Piles. For all waste piles except those complying with §264.250(c), modifications are treated the same as for a landfill. The following modifications are applicable only to waste piles complying with §264.250(c). | |
| 1. Modification or addition of waste pile units: | |
| a. Resulting in greater than 25% increase in the facility's waste pile storage or treatment capacity | 3 |
| b. Resulting in up to 25% increase in the facility's waste pile storage or treatment capacity | 2 |
| 2. Modification of waste pile unit without increasing the capacity of the unit | 2 |
| 3. Replacement of a waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the permit | 1 |
| 4. Modification of a waste pile management practice | 2 |

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| 5. Storage or treatment of different wastes in waste piles: | |
| a. That require additional or different management practices or different design of the unit | 3 |
| b. That do not require additional or different management practices or different design of the unit | 2 |
| 6. Conversion of an enclosed waste pile to a containment building unit | 2 |
| Note: See §270.42(g) for modification procedures to be used for the management of newly listed or identified wastes. | |
| <i>J. Landfills and Unenclosed Waste Piles</i> | |
| 1. Modification or addition of landfill units that result in increasing the facility's disposal capacity | 3 |
| 2. Replacement of a landfill | 3 |
| 3. Addition or modification of a liner, leachate collection system, leachate detection system, run-off control, or final cover system | 3 |
| 4. Modification of a landfill unit without changing a liner, leachate collection system, leachate detection system, run-off control, or final cover system | 2 |
| 5. Modification of a landfill management practice | 2 |
| 6. Landfill different wastes: | |
| a. That require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system | 3 |
| b. That do not require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system | 2 |
| c. That are wastes restricted from land disposal that meet the applicable treatment standards or that are treated to satisfy the standard of “use of practically available technology that yields the greatest environmental benefit” contained in §268.8(a)(2)(ii), and provided that the landfill unit meets the minimum technological requirements stated in §268.5(h)(2). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | 1 |
| d. That are residues from wastewater treatment or incineration, provided that disposal occurs in a landfill unit that meets the minimum technological requirements stated in §268.5(h)(2), and provided further that the landfill has previously received wastes of the same type (for example, incinerator ash). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028) | 1 |
| 7. Modifications of unconstructed units to comply with §§264.251(c), 264.252, 264.253, 264.254(c), 264.301(c), 264.302, 264.303(c), and 264.304 | ¹ 1 |
| 8. Changes in response action plan: | |

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| a. Increase in action leakage rate | 3 |
| b. Change in a specific response reducing its frequency or effectiveness | 3 |
| c. Other changes | 2 |
| Note: See §270.42(g) for modification procedures to be used for the management of newly listed or identified wastes. | |
| K. Land Treatment | |
| 1. Lateral expansion of or other modification of a land treatment unit to increase areal extent | 3 |
| 2. Modification of run-on control system | 2 |
| 3. Modify run-off control system | 3 |
| 4. Other modifications of land treatment unit component specifications or standards required in permit | 2 |
| 5. Management of different wastes in land treatment units: | |
| a. That require a change in permit operating conditions or unit design specifications | 3 |
| b. That do not require a change in permit operating conditions or unit design specifications | 2 |
| Note: See §270.42(g) for modification procedures to be used for the management of newly listed or identified wastes | |
| 6. Modification of a land treatment unit management practice to: | |
| a. Increase rate or change method of waste application | 3 |
| b. Decrease rate of waste application | 1 |
| 7. Modification of a land treatment unit management practice to change measures of pH or moisture content, or to enhance microbial or chemical reactions | 2 |
| 8. Modification of a land treatment unit management practice to grow food chain crops, to add to or replace existing permitted crops with different food chain crops, or to modify operating plans for distribution of animal feeds resulting from such crops | 3 |
| 9. Modification of operating practice due to detection of releases from the land treatment unit pursuant to §264.278(g)(2) | 3 |
| 10. Changes in the unsaturated zone monitoring system, resulting in a change to the location, depth, number of sampling points, or replace unsaturated zone monitoring devices or components of devices with devices or components that have specifications different from permit requirements | 3 |
| 11. Changes in the unsaturated zone monitoring system that do not result in a change to the location, depth, number of sampling points, or that replace unsaturated zone | 2 |

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| monitoring devices or components of devices with devices or components having specifications different from permit requirements | |
| 12. Changes in background values for hazardous constituents in soil and soil-pore liquid | 2 |
| 13. Changes in sampling, analysis, or statistical procedure | 2 |
| 14. Changes in land treatment demonstration program prior to or during the demonstration | 2 |
| 15. Changes in any condition specified in the permit for a land treatment unit to reflect results of the land treatment demonstration, provided performance standards are met, and the Director's prior approval has been received | ¹ 1 |
| 16. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, provided the conditions for the second demonstration are substantially the same as the conditions for the first demonstration and have received the prior approval of the Director | ¹ 1 |
| 17. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, where the conditions for the second demonstration are not substantially the same as the conditions for the first demonstration | 3 |
| 18. Changes in vegetative cover requirements for closure | 2 |
| L. Incinerators, Boilers, and Industrial Furnaces: | |
| 1. Changes to increase by more than 25% any of the following limits authorized in the permit: A thermal feed rate limit, a feedstream feed rate limit, a chlorine/chloride feed rate limit, a metal feed rate limit, or an ash feed rate limit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means | 3 |
| 2. Changes to increase by up to 25% any of the following limits authorized in the permit: A thermal feed rate limit, a feedstream feed rate limit, a chlorine/chloride feed rate limit, a metal feed rate limit, or an ash feed rate limit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means | 2 |
| 3. Modification of an incinerator, boiler, or industrial furnace unit by changing the internal size or geometry of the primary or secondary combustion units, by adding a primary or secondary combustion unit, by substantially changing the design of any component used to remove HCl/Cl ₂ , metals, or particulate from the combustion gases, or by changing other features of the incinerator, boiler, or industrial furnace that could affect its capability to meet the regulatory performance standards. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means | 3 |

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| 4. Modification of an incinerator, boiler, or industrial furnace unit in a manner that would not likely affect the capability of the unit to meet the regulatory performance standards but which would change the operating conditions or monitoring requirements specified in the permit. The Director may require a new trial burn to demonstrate compliance with the regulatory performance standards | 2 |
| 5. Operating requirements: | |
| a. Modification of the limits specified in the permit for minimum or maximum combustion gas temperature, minimum combustion gas residence time, oxygen concentration in the secondary combustion chamber, flue gas carbon monoxide and hydrocarbon concentration, maximum temperature at the inlet to the particulate matter emission control system, or operating parameters for the air pollution control system. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means | 3 |
| b. Modification of any stack gas emission limits specified in the permit, or modification of any conditions in the permit concerning emergency shutdown or automatic waste feed cutoff procedures or controls | 3 |
| c. Modification of any other operating condition or any inspection or recordkeeping requirement specified in the permit | 2 |
| 6. Burning different wastes: | |
| a. If the waste contains a POHC that is more difficult to burn than authorized by the permit or if burning of the waste requires compliance with different regulatory performance standards than specified in the permit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means | 3 |
| b. If the waste does not contain a POHC that is more difficult to burn than authorized by the permit and if burning of the waste does not require compliance with different regulatory performance standards than specified in the permit | 2 |
| Note: See §270.42(g) for modification procedures to be used for the management of newly listed or identified wastes | |
| 7. Shakedown and trial burn: | |
| a. Modification of the trial burn plan or any of the permit conditions applicable during the shakedown period for determining operational readiness after construction, the trial burn period, or the period immediately following the trial burn | 2 |
| b. Authorization of up to an additional 720 hours of waste burning during the shakedown period for determining operational readiness after construction, with the prior approval of the Director | ¹ 1 |

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| c. Changes in the operating requirements set in the permit for conducting a trial burn, provided the change is minor and has received the prior approval of the Director | ¹ 1 |
| d. Changes in the ranges of the operating requirements set in the permit to reflect the results of the trial burn, provided the change is minor and has received the prior approval of the Director | ¹ 1 |
| 8. Substitution of an alternative type of nonhazardous waste fuel that is not specified in the permit | 1 |
| 9. Technology changes needed to meet standards under 40 CFR part 63 (Subpart EEE—National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors), provided the procedures of §270.42(j) are followed. | ¹ 1 |
| 10. Changes to RCRA permit provisions needed to support transition to 40 CFR part 63 (Subpart EEE—National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors), provided the procedures of §270.42(k) are followed. | |
| M. Containment Buildings. | |
| 1. Modification or addition of containment building units: | |
| a. Resulting in greater than 25% increase in the facility's containment building storage or treatment capacity | 3 |
| b. Resulting in up to 25% increase in the facility's containment building storage or treatment capacity | 2 |
| 2. Modification of a containment building unit or secondary containment system without increasing the capacity of the unit | 2 |
| 3. Replacement of a containment building with a containment building that meets the same design standards provided: | |
| a. The unit capacity is not increased | 1 |
| b. The replacement containment building meets the same conditions in the permit | 1 |
| 4. Modification of a containment building management practice | 2 |
| 5. Storage or treatment of different wastes in containment buildings: | |
| a. That require additional or different management practices | 3 |
| b. That do not require additional or different management practices | 2 |
| N. Corrective Action: | |
| 1. Approval of a corrective action management unit pursuant to §264.552 | 3 |
| 2. Approval of a temporary unit or time extension for a temporary unit pursuant to §264.553 | 2 |
| 3. Approval of a staging pile or staging pile operating term extension pursuant to | 2 |

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| §264.554 | |
| O. Burden Reduction | |
| 1. [Reserved] | |
| 2. Development of one contingency plan based on Integrated Contingency Plan Guidance pursuant to §264.52(b) | 1 |
| 3. Changes to recordkeeping and reporting requirements pursuant to: §§264.56(i), 264.343(a)(2), 264.1061(b)(1),(d), 264.1062(a)(2), 264.196(f), 264.100(g), and 264.113(e)(5) | 1 |
| 4. Changes to inspection frequency for tank systems pursuant to §264.195(b) | 1 |
| 5. Changes to detection and compliance monitoring program pursuant to §§264.98(d), (g)(2), and (g)(3), 264.99(f), and (g) | |

FOOTNOTE: Class 1 modifications requiring prior Divisional approval.

§ 270.43 Termination of permits

(a) The following are causes for terminating a permit during its term, or for denying a permit renewal application:

- (1) Noncompliance by the permittee with any condition of the permit;
- (2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or
- (3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

(b) The Director shall follow the applicable procedures in APC&EC Rule No. 8, 40 CFR Part 124 or Part 22, as appropriate in terminating any permit under this section.

Subsection E – Expiration and Continuation of Permits

§ 270.50 Duration of Permits

- (a) HWM permits shall be effective for a fixed term not to exceed 10 years.
- (b) The term of a permit shall not be extended by modification beyond the maximum duration specified in this section.
- (c) The Director may issue any permit for a duration that is less than the full allowable term under this section.
- (d) Each permit for a land disposal facility shall be reviewed by the Director five years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in § 270.41.

§ 270.51 Continuation of Expiring Permits

(a) EPA permits. When EPA is the permit-issuing authority, the conditions of an expired permit continue in force under 5 U.S.C. 558(c) until the effective date of a new permit (see 40 CFR § 124.15) if:

- (1) The permittee has submitted a timely application under § 270.14 and the applicable sections in §§ 270.15 through 270.29 which is a complete (under § 270.10(c)) application for a new permit; and
- (2) The Regional Administrator through no fault of the permittee, does not issue a new permit with an effective date under 40 CFR 124.15 on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resource constraints).

(b) Effect. Permits continued under this section remain fully effective and enforceable.

(c) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit, the Regional Administrator may choose to do any or all of the following:

- (1) Initiate enforcement action based upon the permit which has been continued;
- (2) Issue a notice of intent to deny the new permit under 40 CFR 124.6. If the permit is

denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) Issue a new permit under part 124 with appropriate conditions; or

(4) Take other actions authorized by these rules.

(d) State continuation. In a State with an hazardous waste program authorized under 40 CFR part 271, if a permittee has submitted a timely and complete application under applicable State law and rules, the terms and conditions of an EPA-issued RCRA permit continue in force beyond the expiration date of the permit, but only until the effective date of the State's issuance or denial of a State RCRA permit.

(e) Standardized permits.

(1) The conditions of your expired standardized permit continue until the effective date of your new permit (see 40 CFR 124.15) if all of the following are true:

(i) If EPA is the permit-issuing authority.

(ii) If you submit a timely and complete Notice of Intent under 40 CFR 124.202(b) requesting coverage under a RCRA standardized permit; and

(iii) If the Director, through no fault on your part, does not issue your permit before your previous permit expires (for example, where it is impractical to make the permit effective by that date because of time or resource constraints).

(2) In some cases, the Director may notify you that you are not eligible for a standardized permit (see 40 CFR 124.206). In those cases, the conditions of your expired permit will continue if you submit the information specified in paragraph (a)(1) of this section (that is, a complete application for a new permit) within 60 days after you receive our notification that you are not eligible for a standardized permit.

Subsection F – Special Forms of Permits

§ 270.60 Permits by rule

Notwithstanding any other provision of this section or Rule No. 8, the following shall be deemed to have an HWM permit if the conditions listed are met:

(a) [Reserved]

(b) Injection wells. The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

(1) Has a permit for underground injection issued under 40 CFR Part 144 or 145; and

(2) Complies with the conditions of that permit and the requirements of § 144.14 (requirements for wells managing hazardous waste).

(3) For UIC permits issued after November 8, 1984:

(i) Complies with Section 264.101; and

(ii) Where the UIC well is the only unit at a facility which requires an HWM permit, complies with Section 270.14(d).

(c) Publicly owned treatment works. The owner or operator of a POTW which accepts for treatment hazardous waste, if the owner or operator:

(1) Has an NPDES permit;

(2) Complies with the conditions of that permit; and

- (3) Complies with the following rules:
 - (i) Section 264.11, Identification number;
 - (ii) Section 264.71, Use of manifest system;
 - (iii) Section 264.72, Manifest discrepancies;
 - (iv) Section 264.73(a) and (b)(1), Operating record;
 - (v) Section 264.75, Annual report;
 - (vi) Section 264.76, Unmanifested waste report; and
 - (vii) For NPDES permits issued after November 8, 1984, Section 264.101.
- (4) If the waste meets all Federal, State, and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance.

§ 270.61 Emergency permits

(a) Notwithstanding any other provision of this Section or Rule No. 8, in the event the Director finds an imminent and substantial endangerment to human health or the environment the Director may issue a temporary emergency permit: (1) To a non-permitted facility to allow treatment, storage, or disposal of hazardous waste or (2) to a permitted facility to allow treatment, storage, or disposal of a hazardous waste not covered by an effective permit.

(b) This emergency permit:

- (1) May be oral or written. If oral, it shall be followed in five days by a written emergency permit;
- (2) Shall not exceed 90 days in duration;
- (3) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal;
- (4) May be terminated by the Director at any time without process if he or she determines that termination is appropriate to protect human health and the environment;
- (5) Shall be accompanied by a public notice published under Rule No. 8 and § 270.7 of this Rule including:
 - (i) Name and address of the office granting the emergency authorization;
 - (ii) Name and location of the permitted HWM facility;
 - (iii) A brief description of the wastes involved;
 - (iv) A brief description of the action authorized and reasons for authorizing it; and
 - (v) Duration of the emergency permit; and
- (6) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this part and Sections 264 and 266.

§ 270.62 Hazardous waste incinerator permits

When an owner or operator of a hazardous waste incineration unit becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the air emission standards and limitations in 40 CFR Part 63, subpart EEE, (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance under 40 CFR Part 63.1207(j) and 63.1210(d) documenting compliance with all applicable requirements of 40 CFR Part 63, subpart EEE,), the requirements of this section do not apply, except those provisions the Director determines are

necessary to ensure compliance with Sections 264.345(a) and 264.345(c) of this Rule if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events. Nevertheless, the Director may apply the provisions of this section, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3) of this Rule.

(a) For the purposes of determining operational readiness following completion of physical construction, the Director must establish permit conditions, including but not limited to allowable waste feeds and operating conditions, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The Director may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to § 270.42 of this rule.

(1) Applicants must submit a statement, with Part B of the permit application, which suggests the conditions necessary to operate in compliance with the performance standards of § 264.343 of this rule during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in § 264.345 of this rule.

(2) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of § 264.343 of this rule based on his engineering judgment.

(b) For the purposes of determining feasibility of compliance with the performance standards of § 264.343 of this rule and of determining adequate operating conditions under § 264.345 of this rule, the Director must establish conditions in the permit for a new hazardous waste incinerator to be effective during the trial burn.

(1) Applicants must propose a trial burn plan, prepared under paragraph (b)(2) of this section with a Part B of the permit application.

(2) The trial burn plan must include the following information:

(i) An analysis of each waste or mixture of wastes to be burned which includes:

(A) Heat value of the waste in the form and composition in which it will be burned.

(B) Viscosity (if applicable), or description of the physical form of the waste.

(C) An identification of any hazardous organic constituents listed in Section 261, appendix VIII of this rule, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Section 261, appendix VIII, of this rule which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified, and the basis for the exclusion stated. The waste analysis must rely on appropriate analytical techniques.

(D) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by appropriate analytical methods.

(ii) A detailed engineering description of the incinerator for which the permit is sought including:

(A) Manufacturer's name and model number of incinerator (if available).

(B) Type of incinerator.

(C) Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber.

- (D) Description of the auxiliary fuel system (type/feed).
 - (E) Capacity of prime mover.
 - (F) Description of automatic waste feed cut-off system(s).
 - (G) Stack gas monitoring and pollution control equipment.
 - (H) Nozzle and burner design.
 - (I) Construction materials.
 - (J) Location and description of temperature, pressure, and flow indicating and control devices.
- (iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.
 - (iv) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the Director's decision under paragraph (b)(5) of this section.
 - (v) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.
 - (vi) A description of, and planned operating conditions for, any emission control equipment which will be used.
 - (vii) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.
 - (viii) Such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (b)(5) of this section.
- (3) The Director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph.
- (4) Based on the waste analysis data in the trial burn plan, the Director will specify as trial Principal Organic Hazardous Constituents (POHCs), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Director based on his estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in Section 261, Subsection D, of this rule, the hazardous waste organic constituent or constituents identified in Appendix VII of that part as the basis for listing.
- (5) The Director shall approve a trial burn plan if he finds that:
- (i) The trial burn is likely to determine whether the incinerator performance standard required by § 264.343 of this rule can be met;
 - (ii) The trial burn itself will not present an imminent hazard to human health or the environment;
 - (iii) The trial burn will help the Director to determine operating requirements to be specified under § 264.345 of this rule; and
 - (iv) The information sought in paragraphs (b)(5) (i) and (ii) of this section cannot reasonably be developed through other means.
- (6) The *owner or operator* must send a notice to all persons on the facility mailing list as

set forth in 40 CFR 124.10(c)(1)(ix) and to the appropriate units of State and local government as set forth in 40 CFR 124.10(c)(1)(x) announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after such notice has been issued.

(i) This notice must be mailed within a reasonable time period before the scheduled trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the permitting agency.

(ii) This notice must contain:

- (A) The name and telephone number of the applicant's contact person;
- (B) The name and telephone number of the permitting agency's contact office;
- (C) The location where the approved trial burn plan and any supporting documents can be reviewed and copied; and
- (D) An expected time period for commencement and completion of the trial burn.

(7) During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(i) A quantitative analysis of the trial POHCs in the waste feed to the incinerator.

(ii) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O₂) and hydrogen chloride (HCl).

(iii) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs.

(iv) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in § 264.343(a) of this rule.

(v) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in accordance with § 264.343(b) of this rule.

(vi) A computation of particulate emissions, in accordance with § 264.343(c) of this rule.

(vii) An identification of sources of fugitive emissions and their means of control.

(viii) A measurement of average, maximum, and minimum temperatures and combustion gas velocity.

(ix) A continuous measurement of carbon monoxide (CO) in the exhaust gas.

(x) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in § 264.343 of this rule and to establish the operating conditions required by § 264.345 of this rule as necessary to meet that performance standard.

(8) The applicant must submit to the Director a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in paragraph (b)(7) of this section. This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Director.

(9) All data collected during any trial burn must be submitted to the Director following the completion of the trial burn.

(10) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under § 270.11.

(11) Based on the results of the trial burn, the Director shall set the operating requirements in the final permit according to § 264.345 of this rule. The permit modification shall proceed

according to § 270.42.

(c) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn results, the Director may establish permit conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet the requirements of § 264.345 of this rule, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the Director.

(1) Applicants must submit a statement, with Part B of the permit application, which identifies the conditions necessary to operate in compliance with the performance standards of § 264.343 of this rule, during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters in § 264.345 of this rule.

(2) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify those requirements for this period most likely to meet the performance standards of § 264.343 of this rule based on his engineering judgment.

(d) For the purpose of determining feasibility of compliance with the performance standards of § 264.343 of this rule and of determining adequate operating conditions under § 264.345 of this rule, the applicant for a permit for an existing hazardous waste incinerator must prepare and submit a trial burn plan and perform a trial burn in accordance with § 270.19(b) and paragraphs (b)(2) through (b)(5) and (b)(7) through (b)(10) of this rule or, instead, submit other information as specified in § 270.19(c). The Director must announce his or her intention to approve the trial burn plan in accordance with the timing and distribution requirements of paragraph (b)(6) of this section. The contents of the notice must include: the name and telephone number of a contact person at the facility; the name and telephone number of a contact office at the permitting agency; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to permit issuance, including the anticipated time schedule for agency approval of the plan and the time period during which the trial burn would be conducted. Applicants submitting information under § 270.19(a) are exempt from compliance with §§ 264.343 and 264.345 and, therefore, are exempt from the requirement to conduct a trial burn. Applicants who submit trial burn plans and receive approval before submission of a permit application must complete the trial burn and submit the results, specified in paragraph (b)(7) of this section, with part B of the permit application. If completion of this process conflicts with the date set for submission of the part B application, the applicant must contact the Director to establish a later date for submission of the part B application or the trial burn results. Trial burn results must be submitted prior to issuance of the permit. When the applicant submits a trial burn plan with part B of the permit application, the Director will specify a time period prior to permit issuance in which the trial burn must be conducted and the results submitted.

§ 270.63 Permits for land treatment demonstrations using field test or laboratory analyses

(a) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of § 264.272 of this rule, the Director may issue a treatment demonstration permit. The permit must contain only those requirements necessary to meet the standards in § 264.272(c).

The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two-phase facility permit covering the field tests, or laboratory analyses, and design, construction operation and maintenance of the land treatment unit.

(1) The Director may issue a two-phase facility permit if he finds that, based on information submitted in Part B of the application, substantial, although incomplete or inconclusive, information already exists upon which to base the issuance of a facility permit.

(2) If the Director finds that not enough information exists upon which he can establish permit conditions to attempt to provide for compliance with all of the requirements of Subsection M, he must issue a treatment demonstration permit covering only the field test or laboratory analyses.

(b) If the Director finds that a phased permit may be issued, he will establish, as requirements in the first phase of the facility permit, conditions for conducting the field tests or laboratory analyses. These permit conditions will include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, post-demonstration clean-up activities, and any other conditions which the Director finds may be necessary under § 264.272(c). The Director will include conditions in the second phase of the facility permit to attempt to meet all Subsection M requirements pertaining to unit design, construction, operation, and maintenance. The Director will establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the Part B application.

(1) The first phase of the permit will be effective as provided in § 124.15(b) of this rule.

(2) The second phase of the permit will be effective as provided in paragraph (d) of this section.

(c) When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, he must submit to the Director a certification, signed by a person authorized to sign a permit application or report under § 270.11, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting such tests or analyses. The owner or operator must also submit all data collected during the field tests or laboratory analyses within 90 days of completion of those tests or analyses unless the Director approves a later date.

(d) If the Director determines that the results of the field tests or laboratory analyses meet the requirements of § 264.272 of this rule, he will modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with part 264, Subsection M, of this rule, based upon the results of the field tests or laboratory analyses.

(1) This permit modification may proceed under § 270.42, or otherwise will proceed as a modification under § 270.41(a)(2). If such modifications are necessary, the second phase of the permit will become effective only after those modifications have been made.

(2) If no modifications of the second phase of the permit are necessary, the Director will give notice of his final decision to the permit applicant and to each person who submitted written comments on the phased permit or who requested notice of the final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in § 124.15(b).

§ 270.64 Interim permits for UIC wells

The Director may issue a permit under this part to any Class I UIC well (see 40 CFR 144.6) injecting hazardous wastes. Any such permit shall apply and insure compliance with all applicable requirements of 40 CFR part 264, Subsection R (RCRA standards for wells), and shall be for a term not to exceed two years.

§ 270.65 Research, development, and demonstration permits

(a) The Director may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for such experimental activity have not been promulgated under Section 264 or 266. Any such permit shall include such terms and conditions as will assure protection of human health and the environment. Such permits:

(1) Shall provide for the construction of such facilities as necessary, and for operation of the facility for not longer than one year unless renewed as provided in paragraph (d) of this section, and

(2) Shall provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the Director deems necessary for purposes of determining the efficacy and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment, and

(3) Shall include such requirements as the Director deems necessary to protect human health and the environment (including, but not limited to, requirements regarding monitoring, operation, financial responsibility, closure, and remedial action), and such requirements as the Director deems necessary regarding testing and providing of information to the Director with respect to the operation of the facility.

(b) For the purpose of expediting review and issuance of permits under this section, the Director may, consistent with the protection of human health and the environment, modify or waive permit application and permit issuance requirements in Section 270 and Rule No. 8 except that there may be no modification or waiver of rules regarding financial responsibility (including insurance) or of procedures regarding public participation.

(c) The Director may order an immediate termination of all operations at the facility at any time he determines that termination is necessary to protect human health and the environment.

(d) Any permit issued under this section may be renewed not more than three times. Each such renewal shall be for a period of not more than 1 year.

§ 270.66 Permits for boilers and industrial furnaces burning hazardous waste

When an owner or operator of a cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements after October 12, 2005 or when an owner or operator of an existing cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace demonstrates compliance with the air emission standards and limitations in 40 CFR Part 63, subpart EEE, (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance under 40 CFR Part 63.1207(j) and 63.1210(d) documenting compliance with all applicable requirements of 40 CFR Part 63, subpart EEE,), the requirements of this section do not apply. The requirements of this section do apply, however, if the Director determines certain provisions are necessary to ensure compliance with §§ 266.102(e)(1) and 266.102(e)(2)(iii) of this

Rule if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events; or if you are an area source and elect to comply with the §§ 266.105, 266.106, and 266.107 standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals; or the Director determines certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3) of this Rule.

(a) General. Owners and operators of new boilers and industrial furnaces (those not operating under the interim status standards of § 266.103 of this rule) are subject to paragraphs (b) through (f) of this section. Boilers and industrial furnaces operating under the interim status standards of § 266.103 of this rule are subject to paragraph (g) of this section.

(b) Permit operating periods for new boilers and industrial furnaces. A permit for a new boiler or industrial furnace shall specify appropriate conditions for the following operating periods:

(1) Pretrial burn period. For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the boiler or industrial furnace to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time when burning hazardous waste, the Director must establish in the Pretrial Burn Period of the permit conditions, including but not limited to, allowable hazardous waste feed rates and operating conditions. The Director may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to § 270.42.

(i) Applicants must submit a statement, with part B of the permit application, that suggests the conditions necessary to operate in compliance with the standards of §§ 266.104 through 266.107 of this rule during this period. This statement should include, at a minimum, restrictions on the applicable operating requirements identified in § 266.102(e) of this rule.

(ii) The Director will review this statement and any other relevant information submitted with part B of the permit application and specify requirements for this period sufficient to meet the performance standards of §§ 266.104 through 266.107 of this rule based on his/her engineering judgment.

(2) Trial burn period. For the duration of the trial burn, the Director must establish conditions in the permit for the purposes of determining feasibility of compliance with the performance standards of §§ 266.104 through 266.107 of this rule and determining adequate operating conditions under § 266.102(e) of this rule. Applicants must propose a trial burn plan, prepared under paragraph (c) of this section, to be submitted with part B of the permit application.

(3) Post-trial burn period. (i) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Director to reflect the trial burn results, the Director will establish the operating requirements most likely to ensure compliance with the performance standards of §§ 266.104 through 266.107 of this rule based on his engineering judgment.

(ii) Applicants must submit a statement, with part B of the application, that identifies the conditions necessary to operate during this period in compliance with the

performance standards of §§ 266.104 through 266.107 of this rule. This statement should include, at a minimum, restrictions on the operating requirements provided by § 266.102(e) of this rule.

(iii) The Director will review this statement and any other relevant information submitted with part B of the permit application and specify requirements for this period sufficient to meet the performance standards of §§ 266.104 through 266.107 of this rule based on his/her engineering judgment.

(4) Final permit period. For the final period of operation, the Director will develop operating requirements in conformance with § 266.102(e) of this rule that reflect conditions in the trial burn plan and are likely to ensure compliance with the performance standards of §§ 266.104 through 266.107 of this rule. Based on the trial burn results, the Director shall make any necessary modifications to the operating requirements to ensure compliance with the performance standards. The permit modification shall proceed according to § 270.42.

(c) Requirements for trial burn plans. The trial burn plan must include the following information. The Director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph:

(1) An analysis of each feed stream, including hazardous waste, other fuels, and industrial furnace feed stocks, as fired, that includes:

(i) Heating value, levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine/chloride, and ash;

(ii) Viscosity or description of the physical form of the feed stream;

(2) An analysis of each hazardous waste, as fired, including:

(i) An identification of any hazardous organic constituents listed in appendix VIII, Section 261, of this rule that are present in the feed stream, except that the applicant need not analyze for constituents listed in appendix VIII that would reasonably not be expected to be found in the hazardous waste. The constituents excluded from analysis must be identified and the basis for this exclusion explained. The waste analysis must be conducted in accordance with appropriate analytical techniques.

(ii) An approximate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by appropriate analytical methods.

(iii) A description of blending procedures, if applicable, prior to firing the hazardous waste, including a detailed analysis of the hazardous waste prior to blending, an analysis of the material with which the hazardous waste is blended, and blending ratios.

(3) A detailed engineering description of the boiler or industrial furnace, including:

(i) Manufacturer's name and model number of the boiler or industrial furnace;

(ii) Type of boiler or industrial furnace;

(iii) Maximum design capacity in appropriate units;

(iv) Description of the feed system for the hazardous waste, and, as appropriate, other fuels and industrial furnace feedstocks;

(v) Capacity of hazardous waste feed system;

(vi) Description of automatic hazardous waste feed cutoff system(s); and

(vii) Description of any pollution control system; and

(viii) Description of stack gas monitoring and any pollution control monitoring systems.

(4) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(5) A detailed test schedule for each hazardous waste for which the trial burn is planned, including date(s), duration, quantity of hazardous waste to be burned, and other factors relevant to the Director's decision under paragraph (b)(2) of this section.

(6) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feed rate, and, as appropriate, the feed rates of other fuels and industrial furnace feedstocks, and any other relevant parameters that may affect the ability of the boiler or industrial furnace to meet the performance standards in §§ 266.104 through 266.107 of this rule.

(7) A description of, and planned operating conditions for, any emission control equipment that will be used.

(8) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction.

(9) Such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (b)(2) of this section.

(d) Trial burn procedures. (1) A trial burn must be conducted to demonstrate conformance with the standards of §§ 266.104 through 266.107 of this rule under an approved trial burn plan.

(2) The Director shall approve a trial burn plan if he/she finds that:

(i) The trial burn is likely to determine whether the boiler or industrial furnace can meet the performance standards of §§ 266.104 through 266.107 of this rule;

(ii) The trial burn itself will not present an imminent hazard to human health and the environment;

(iii) The trial burn will help the Director to determine operating requirements to be specified under § 266.102(e) of this rule; and

(iv) The information sought in the trial burn cannot reasonably be developed through other means.

(3) The *owner or operator* must send a notice to all persons on the facility mailing list as set forth in 40 CFR 124.10(c)(1)(ix) and to the appropriate units of State and local government as set forth in 40 CFR 124.10(c)(1)(x) announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after such notice has been issued.

(i) This notice must be mailed within a reasonable time period before the trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the permitting agency.

(ii) This notice must contain:

(A) The name and telephone number of applicant's contact person;

(B) The name and telephone number of the permitting agency contact office;

(C) The location where the approved trial burn plan and any supporting documents can be reviewed and copied; and

(D) An expected time period for commencement and completion of the trial burn.

(4) The applicant must submit to the Director a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all

the determinations required in paragraph (c) of this section. This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Director.

(5) All data collected during any trial burn must be submitted to the Director following completion of the trial burn.

(6) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under § 270.11.

(e) Special procedures for DRE trial burns. When a DRE trial burn is required under § 266.104(a) of this rule, the Director will specify (based on the hazardous waste analysis data and other information in the trial burn plan) as trial Principal Organic Hazardous Constituents (POHCs) those compounds for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Director based on information including his/her estimate of the difficulty of destroying the constituents identified in the hazardous waste analysis, their concentrations or mass in the hazardous waste feed, and, for hazardous waste containing or derived from wastes listed in Section 261, Subsection D of this rule, the hazardous waste organic constituent(s) identified in Appendix VII of that part as the basis for listing.

(f) Determinations based on trial burn. During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(1) A quantitative analysis of the levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, thallium, silver, and chlorine/chloride, in the feed streams (hazardous waste, other fuels, and industrial furnace feedstocks);

(2) When a DRE trial burn is required under § 266.104(a) of this rule:

(i) A quantitative analysis of the trial POHCs in the hazardous waste feed;

(ii) A quantitative analysis of the stack gas for the concentration and mass emissions of the trial POHCs; and

(iii) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in § 266.104(a) of this rule;

(3) When a trial burn for chlorinated dioxins and furans is required under § 266.104(e) of this rule, a quantitative analysis of the stack gas for the concentration and mass emission rate of the 2,3,7,8-chlorinated tetra-octa congeners of chlorinated dibenzo-p-dioxins and furans, and a computation showing conformance with the emission standard.

(4) When a trial burn for particulate matter, metals, or HCl/Cl₂ is required under §§ 266.105, 266.106 (c) or (d), or 266.107 (b)(2) or (c) of this rule, a quantitative analysis of the stack gas for the concentrations and mass emissions of particulate matter, metals, or hydrogen chloride (HCl) and chlorine (Cl₂), and computations showing conformance with the applicable emission performance standards;

(5) When a trial burn for DRE, metals, or HCl/Cl₂ is required under §§ 266.104(a), 266.106 (c) or (d), or 266.107 (b)(2) or (c) of this rule, a quantitative analysis of the scrubber water (if any), ash residues, other residues, and products for the purpose of estimating the fate of the trial POHCs, metals, and chlorine/chloride;

(6) An identification of sources of fugitive emissions and their means of control;

(7) A continuous measurement of carbon monoxide (CO), oxygen, and where required, hydrocarbons (HC), in the stack gas; and

(8) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in §§ 266.104 through 266.107 of this rule and to establish the operating conditions required by § 266.102(e) of this

rule as necessary to meet those performance standards.

(g) Interim status boilers and industrial furnaces. For the purpose of determining feasibility of compliance with the performance standards of § 266.104 through 266.107 of this rule and of determining adequate operating conditions under § 266.103 of this rule, applicants owning or operating existing boilers or industrial furnaces operated under the interim status standards of § 266.103 of this rule must either prepare and submit a trial burn plan and perform a trial burn in accordance with the requirements of this section or submit other information as specified in § 270.22(a)(6). The Director must announce his or her intention to approve of the trial burn plan in accordance with the timing and distribution requirements of paragraph (d)(3) of this section. The contents of the notice must include: the name and telephone number of a contact person at the facility; the name and telephone number of a contact office at the permitting agency; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to permit issuance, including the anticipated time schedule for agency approval of the plan and the time periods during which the trial burn would be conducted. Applicants who submit a trial burn plan and receive approval before submission of the part B permit application must complete the trial burn and submit the results specified in paragraph (f) of this section with the part B permit application. If completion of this process conflicts with the date set for submission of the part B application, the applicant must contact the Director to establish a later date for submission of the part B application or the trial burn results. If the applicant submits a trial burn plan with part B of the permit application, the trial burn must be conducted and the results submitted within a time period prior to permit issuance to be specified by the Director.

§ 270.67 RCRA standardized permits for storage and treatment units

RCRA standardized permits are special forms of permits for TSD owners or operators that:

- (a) Generate hazardous waste and then non-thermally treat or store the hazardous waste on-site in tanks, containers, or containment buildings; or
- (b) Receive hazardous waste generated off-site by a generator under the same ownership as the receiving facility, and then store or non-thermally treat the hazardous waste in containers, tanks, or containment buildings. Standardized permit facility owners or operators are regulated under Subsection J of this Section, 40 CFR Part 124 Subsection G, Rule No. 8, and Section 267 of this Rule.

§ 270.68 Remedial Action Plans (RAPs)

Remedial Action Plans (RAPs) are special forms of permits that are regulated under subsection H of this Section.

Subsection G -- Interim Status

§ 270.70 Qualifying for interim status

- (a) Any person who owns or operates an existing hazardous waste management facility shall have interim status and shall be treated as having been issued a permit to the extent he or she has*

complied with the requirements of Act 406 of 1979 (Ark. Code, Ann. §§ 8-7-201 et seq.), as amended, § 270.10(e), and § 3010(a) of RCRA.

(b) If the Division determines that a Part A application is deficient it may notify the owner or operator that he or she is not entitled to interim status. The owner or operator will then be subject to enforcement for operating without a permit.

§ 270.71 Operation during interim status

(a) During the interim status period the facility shall not:

- (1) Treat, store, or dispose of hazardous waste not specified in Part A of the permit application;
- (2) Employ processes not specified in Part A of the permit application; or
- (3) Exceed the design capacities specified in Part A of the permit application.

(b) Interim status standards. During interim status, owners or operators shall comply with the interim status standards at Section 265 and 40 CFR Part 265.

§ 270.72 Changes during interim status

(a) Except as provided in paragraph (b), the owner or operator of an interim status facility may make the following changes at the facility:

(1) Treatment, storage, or disposal of new hazardous wastes not previously identified in Part A of the permit application (and, in the case of newly listed or identified wastes, addition of the units being used to treat, store, or dispose of the hazardous wastes on the effective date of the listing or identification) if the owner or operator submits a revised Part A permit application prior to such treatment, storage, or disposal;

(2) Increases in the design capacity of processes used at the facility if the owner or operator submits a revised Part A permit application prior to such a change (along with a justification explaining the need for the change) and the Director approves the changes because:

- (i) There is a lack of available treatment, storage, or disposal capacity at other hazardous waste management facilities, or
- (ii) The change is necessary to comply with a Federal, State, or local requirement.

(3) Changes in the processes for the treatment, storage, or disposal of hazardous waste or addition of processes if the owner or operator submits a revised Part A permit application prior to such change (along with a justification explaining the need for the change) and the Director approves the change because:

- (i) The change is necessary to prevent a threat to human health and the environment because of an emergency situation, or
- (ii) The change is necessary to comply with a Federal, State, or local requirement.

(4) Changes in the ownership or operational control of a facility if the new owner or operator submits a revised Part A permit application no later than 90 days prior to the scheduled change. When a transfer of operational control of a facility occurs, the old owner or operator shall comply with the requirements of Section 265, Subsection H (Financial Requirements), until the new owner or operator has demonstrated to the Director that he is complying with the requirements of that Subsection. The new owner or operator must demonstrate compliance with Subsection H requirements within six months of the date of the change in ownership or operational control of the facility. Upon demonstration to the Director

by the new owner or operator of compliance with Subsection H, the Director shall notify the old owner or operator in writing that he no longer needs to comply with Subsection H as of the date of demonstration. All other interim status duties are transferred effective immediately upon the date of the change in ownership or operational control of the facility.

(5) Changes made in accordance with an interim status corrective action order issued by EPA under section 3008(h) or other Federal authority, by the Division under comparable State authority, or by a court in a judicial action brought by EPA or by the Division. Changes under this paragraph are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility.

(6) Addition of newly regulated units for the treatment, storage, or disposal of hazardous waste if the owner or operator submits a revised part A permit application on or before the date on which the unit becomes subject to the new requirements.

(b) Except as specifically allowed under this paragraph, changes listed under paragraph (a) of this section may not be made if they amount to reconstruction of the hazardous waste management facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds 50 percent of the capital cost of a comparable entirely new hazardous waste management facility. If all other requirements are met, the following changes may be made even if they amount to a reconstruction:

(1) Changes made solely for the purposes of complying with the requirements of 40 CFR 265.193 for tanks and ancillary equipment.

(2) If necessary to comply with Federal, State, or local requirements, changes to an existing unit, changes solely involving tanks or containers, or addition of replacement surface impoundments that satisfy the standards of section 3004(o).

(3) Changes that are necessary to allow owners or operators to continue handling newly listed or identified hazardous wastes that have been treated, stored, or disposed of at the facility prior to the effective date of the rule establishing the new listing or identification.

(4) Changes during closure of a facility or of a unit within a facility made in accordance with an approved closure plan.

(5) Changes necessary to comply with an interim status corrective action order issued by EPA under section 3008(h) or other Federal authority, by the Division under comparable State authority, or by a court in a judicial proceeding brought by EPA or the Division, provided that such changes are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility.

(6) Changes to treat or store, in tanks, containers, or containment buildings, hazardous wastes subject to land disposal restrictions imposed by Section 268, 40 CFR Part 268 or RCRA section 3004, provided that such changes are made solely for the purpose of complying with Section 268, Part 268 or RCRA section 3004.

(7) Addition of newly regulated units under paragraph (a)(6) of this section.

(8) Changes necessary to comply with standards under 40 CFR part 63, Subpart EEE-National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors.

§ 270.73 Termination of interim status

Interim status terminates when:

(a) Final administrative disposition of a permit application, except an application for a remedial action plan (RAP) under subsection H of this Section, is made.

(b) Interim status is terminated as provided in § 270.10(e)(5).

(c) For owners or operators of each land disposal facility which has been granted interim status prior to November 8, 1984, on November 8, 1985, unless:

(1) The owner or operator submits a Part B application for a permit for such facility prior to that date; and

(2) The owner or operator certifies that such facility is in compliance with all applicable ground-water monitoring and financial responsibility requirements.

(d) For owners or operators of each land disposal facility which is in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to the requirement to have an HWM permit and which is granted interim status, twelve months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility:

(1) Submits a Part B application for an HWM permit for such facility before the date 12 months after the date on which the facility first becomes subject to such permit requirement; and

(2) Certifies that such facility is in compliance with all applicable ground water monitoring and financial responsibility requirements.

(e) For owners or operators of any land disposal unit that is granted authority to operate under § 270.72(a) (1), (2) or (3), on the date 12 months after the effective date of such requirement, unless the owner or operator certifies that such unit is in compliance with all applicable ground-water monitoring and financial responsibility requirements.

(f) For owners and operators of each incinerator facility which has achieved interim status prior to November 8, 1984, interim status terminates on November 8, 1989, unless the owner or operator of the facility submits a part B application for an HWM permit for an incinerator facility by November 8, 1986.

(g) For owners or operators of any facility (other than a land disposal or an incinerator facility) which has achieved interim status prior to November 8, 1984, interim status terminates on November 8, 1992, unless the owner or operator of the facility submits a part B application for an HWM permit for the facility by November 8, 1988.

Subsection H – Remedial Action Plans (RAPs)

§ 270.79 Why is this subpart written in a special format?

This subpart is written in a special format to make it easier to understand the regulatory requirements. Like other Environmental Protection Agency (EPA) regulations, this establishes enforceable legal requirements. For this Subpart, “I” and “you” refer to the owner/operator.

General Information

§ 270.80 What is a RAP?

(a) A RAP is a special form of RCRA permit that you, as an owner or operator, may obtain, instead of a permit issued under §§ 270.3 through 270.66, to authorize you to treat, store, or dispose of hazardous remediation waste (as defined in Sec. 260.10 of this chapter) at a remediation waste management site. A RAP may only be issued for the area of contamination where the remediation wastes to be managed under the RAP originated, or areas in close proximity to the contaminated area, except as allowed in limited circumstances under § 270.230.

(b) The requirements in §§ 270.3 through 270.66 do not apply to RAPs unless those requirements for traditional RCRA permits are specifically required under §§ 270.80 through 270.230. The definitions in § 270.2 apply to RAPs.

(c) Notwithstanding any other provision of this Section, Rule No. 8, or 40 CFR Part 124, any document that meets the requirements in this section constitutes a RCRA permit under RCRA section 3005(c).

(d) A RAP may be:

(1) A stand-alone document that includes only the information and conditions required by this subsection; or

(2) Part (or parts) of another document that includes information and/or conditions for other activities at the remediation waste management site, in addition to the information and conditions required by this subsection.

(e) If you are treating, storing, or disposing of hazardous remediation wastes as part of a cleanup compelled by Federal or State cleanup authorities, your RAP does not affect your obligations under those authorities in any way.

(f) If you receive a RAP at a facility operating under interim status, the RAP does not terminate your interim status.

§ 270.85 When do I need a RAP?

(a) Whenever you treat, store, or dispose of hazardous remediation wastes in a manner that requires a RCRA permit under § 270.1, you must either obtain:

(1) A RCRA permit according to §§ 270.3 through 270.66; or

(2) A RAP according to this subsection.

(b) Treatment units that use combustion of hazardous remediation wastes at a remediation waste management site are not eligible for RAPs under this Subsection.

(c) You may obtain a RAP for managing hazardous remediation waste at an already permitted RCRA facility. You must have these RAPs approved as a modification to your existing permit according to the requirements of §270.41 or § 270.42 instead of the requirements in this Subsection. When you submit an application for such a modification, however, the information requirements in §§ 270.42(a)(1)(i), (b)(1)(iv), and (c)(1)(iv) do not apply; instead, you must submit the information required under § 270.110. When your permit is modified the RAP becomes part of the RCRA permit. Therefore when your permit (including the RAP portion) is modified, revoked and reissued, terminated or when it expires, it will be modified according to the applicable requirements in §§ 270.40 through 270.42, revoked and reissued according to the applicable requirements in §§ 270.41 and 270.43, terminated according to the applicable requirements in § 270.43, and expire according to the applicable requirements in §§ 270.50 and 270.51.

§ 270.90 Does my RAP grant me any rights or relieve me of any obligations?

The provisions of § 270.4 apply to RAPs. (Note: The provisions of § 270.4(a) provide you assurance that, as long as you comply with your RAP, the Division and EPA will consider you in compliance with Subtitle C of RCRA, and will not take enforcement actions against you. However, you should be aware of four exceptions to this provision that are listed in § 270.4.)

Applying for a RAP

§ 270.95 How do I apply for a RAP?

To apply for a RAP, you must complete an application, sign it, and submit it to the Director according to the requirements in this subpart.

§ 270.100 Who must obtain a RAP?

When a facility or remediation waste management site is owned by one person, but the treatment, storage or disposal activities are operated by another person, it is the operator's duty to obtain a RAP, except that the owner must also sign the RAP application.

§ 270.105 Who must sign the application and any required reports for a RAP?

Both the owner and the operator must sign the RAP application and any required reports according to § 270.11(a), (b), and (c). In the application, both the owner and the operator must also make the certification required under § 270.11(d)(1). However, the owner may choose the alternative certification under § 270.11(d)(2) if the operator certifies under § 270.11(d)(1).

§ 270.110 What must I include in my application for a RAP?

You must include the following information in your application for a RAP:

- (a) The name, address, and EPA identification number of the remediation waste management site;
- (b) The name, address, and telephone number of the owner and operator;
- (c) The latitude and longitude of the site;
- (d) The United States Geological Survey (USGS) or county map showing the location of the remediation waste management site;
- (e) A scaled drawing of the remediation waste management site showing:
 - (1) The remediation waste management site boundaries;
 - (2) Any significant physical structures; and
 - (3) The boundary of all areas on-site where remediation waste is to be treated, stored or disposed;
- (f) A specification of the hazardous remediation waste to be treated, stored or disposed of at the facility or remediation waste management site. This must include information on:
 - (1) Constituent concentrations and other properties of the hazardous remediation wastes that may affect how such materials should be treated and/or otherwise managed;
 - (2) An estimate of the quantity of these wastes; and
 - (3) A description of the processes you will use to treat, store, or dispose of this waste including technologies, handling systems, design and operating parameters you will use to

treat hazardous remediation wastes before disposing of them according to the LDR standards of Section 268 of this rule, as applicable;

(g) Enough information to demonstrate that operations that follow the provisions in your RAP application will ensure compliance with applicable requirements of Sections 264, 266, and 268 of this rule;

(h) Such information as may be necessary to enable the Director to carry out his duties under other State and Federal laws as is required for traditional RCRA permits under §270.14(b)(20);

(i) Any other information the Director decides is necessary for demonstrating compliance with this subsection or for determining any additional RAP conditions that are necessary to protect human health and the environment.

§ 270.115 What if I want to keep this information confidential?

Part 2 (Public Information) of this section allows you to claim as confidential any or all of the information you submit to the Division or EPA under this subsection. You must assert any such claim at the time that you submit your RAP application or other submissions by stamping the words “confidential business information” on each page containing such information. If you do assert a claim at the time you submit the information, DEQ will treat the information according to the procedures in § 270.12 of this rule. If you do not assert a claim at the time you submit the information, the Division may make the information available to the public without further notice to you. DEQ will deny any requests for confidentiality of your name and/or address, or other information which is required to be made accessible under the Arkansas Freedom of Information Act.

§ 270.120 To whom must I submit my RAP application?

You must submit your application for a RAP to the Director for approval.

§ 270.125 If I submit my RAP application as part of another document, what must I do?

If you submit your application for a RAP as a part of another document, you must clearly identify the components of that document that constitute your RAP application.

Getting a RAP Approved

§ 270.130 What is the process for approving or denying my application for a RAP?

(a) If the Director tentatively finds that your RAP application includes all of the information required by § 270.110 and that your proposed remediation waste management activities meet the regulatory standards, the Director will make a tentative decision to approve your RAP application. The Director will then prepare a draft RAP and provide an opportunity for public comment before making a final decision on your RAP application, according to this subsection.

(b) If the Director tentatively finds that your RAP application does not include all of the information required by § 270.110 or that your proposed remediation waste management activities do not meet the regulatory standards, the Director may request additional information from you or ask you to correct deficiencies in your application. If you fail or refuse to provide any additional

information the Director requests, or to correct any deficiencies in your RAP application, the Director may make a tentative decision to deny your RAP application. After making this tentative decision, the Director will prepare a notice of intent to deny your RAP application (“notice of intent to deny”) and provide an opportunity for public comment before making a final decision on your RAP application, according to the requirements in this Subpart. The Director may deny the RAP application either in its entirety or in part.

§ 270.135 What must the Director include in a draft RAP?

If the Director prepares a draft RAP, it must include the:

- (a) Information required under § 270.110(a) through (f);
- (b) The following terms and conditions:
 - (1) Terms and conditions necessary to ensure that the operating requirements specified in your RAP comply with applicable requirements of Sections 264, 266, and 268 of this rule (including any recordkeeping and reporting requirements). In satisfying this provision, the Director may incorporate, expressly or by reference, applicable requirements of Sections 264, 266, and 268 of this rule into the RAP or establish site-specific conditions as required or allowed by Sections 264, 266, and 268 of this rule;
 - (2) Terms and conditions in § 270.30;
 - (3) Terms and conditions for modifying, revoking and reissuing, and terminating your RAP, as provided in § 270.170; and
 - (4) Any additional terms or conditions that the Director determines are necessary to protect human health and the environment, including any terms and conditions necessary to respond to spills and leaks during use of any units permitted under the RAP; and
- (c) If the draft RAP is part of another document, as described in § 270.80(d)(2), the Director must clearly identify the components of that document that constitute the draft RAP.

§ 270.140 What else must the Director prepare in addition to the draft RAP or notice of intent to deny?

Once the Director has prepared the draft RAP or notice of intent to deny, he must then:

- (a) Prepare a statement of basis that briefly describes the derivation of the conditions of the draft RAP and the reasons for them, or the rationale for the notice of intent to deny;
- (b) Compile an administrative record, including:
 - (1) The RAP application, and any supporting data furnished by the applicant;
 - (2) The draft RAP or notice of intent to deny;
 - (3) The statement of basis and all documents cited therein (material readily available at the Division offices or published material that is generally available need not be physically included with the rest of the record, as long as it is specifically referred to in the statement of basis); and
 - (4) Any other documents that support the decision to approve or deny the RAP; and
- (c) Make information contained in the administrative record available for review by the public upon request.

§ 270.145 What are the procedures for public comment on the draft RAP or notice of intent to deny?

(a) The Director must:

(1) Send notice to you of his intention to approve or deny your RAP application, and send you a copy of the statement of basis;

(2) Publish a notice of his intention to approve or deny your RAP application in a major local newspaper of general circulation;

(3) Broadcast his intention to approve or deny your RAP application over a local radio station; and

(4) Send a notice of his intention to approve or deny your RAP application to each unit of local government having jurisdiction over the area in which your site is located, and to each State agency having any authority under State law with respect to any construction or operations at the site.

(b) The notice required by paragraph (a) of this section must provide an opportunity for the public to submit written comments on the draft RAP or notice of intent to deny within at least 45 days.

(c) The notice required by paragraph (a) of this section must include:

(1) The name and address of the office processing the RAP application;

(2) The name and address of the RAP applicant, and if different, the remediation waste management site or activity the RAP will regulate;

(3) A brief description of the activity the RAP will regulate;

(4) The name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft RAP or notice of intent to deny, statement of basis, and the RAP application; (5) A brief description of the comment procedures in this section, and any other procedures by which the public may participate in the RAP decision;

(6) If a hearing is scheduled, the date, time, location and purpose of the hearing;

(7) If a hearing is not scheduled, a statement of procedures to request a hearing;

(8) The location of the administrative record, and times when it will be open for public inspection; and

(9) Any additional information the Director considers necessary or proper.

(d) If, within the comment period, the Director receives written notice of opposition to his intention to approve or deny your RAP application and a request for a hearing, the Director must hold an informal public hearing to discuss issues relating to the approval or denial of your RAP application. The Director may also determine on his own initiative that an informal hearing is appropriate. The hearing must include an opportunity for any person to present written or oral comments. Whenever possible, the Director must schedule this hearing at a location convenient to the nearest population center to the remediation waste management site and give notice according to the requirements in paragraph (a) of this section. This notice must, at a minimum, include the information required by paragraph (c) of this section and:

(1) Reference to the date of any previous public notices relating to the RAP application;

(2) The date, time and place of the hearing; and

(3) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

§ 270.150 How will the Director make a final decision on my RAP application?

(a) The Director must consider and respond to any significant comments raised during the public comment period, or during any hearing on the draft RAP or notice of intent to deny, and revise your draft RAP based on those comments, as appropriate.

(b) If the Director determines that your RAP includes the information and terms and conditions required in § 270.135, then he will issue a final decision approving your RAP and, in writing, notify you and all commenters on your draft RAP that your RAP application has been approved.

(c) If the Director determines that your RAP does not include the information required in § 270.135, then he will issue a final decision denying your RAP and, in writing, notify you and all commenters on your draft RAP that your RAP application has been denied.

(d) If the Director's final decision is that the tentative decision to deny the RAP application was incorrect, he will withdraw the notice of intent to deny and proceed to prepare a draft RAP, according to the requirements in this subsection.

(e) When the Director issues his final RAP decision, he must refer to the procedures for appealing the decision under § 270.155.

(f) Before issuing the final RAP decision, the Director must compile an administrative record. Material readily available at the issuing office or published materials which are generally available and which are included in the administrative record need not be physically included with the rest of the record as long as it is specifically referred to in the statement of basis or the response to comments. The administrative record for the final RAP must include information in the administrative record for the draft RAP (see § 270.140(b)) and:

- (1) All comments received during the public comment period;
- (2) Tapes or transcripts of any hearings;
- (3) Any written materials submitted at these hearings;
- (4) The responses to comments;
- (5) Any new material placed in the record since the draft RAP was issued;
- (6) Any other documents supporting the RAP; and
- (7) A copy of the final RAP.

(g) The Director must make information contained in the administrative record available for review by the public upon request.

§ 270.155 May the decision to approve or deny my RAP application be administratively appealed?

(a) Any commenter on the draft RAP or notice of intent to deny, or any participant in any public hearing(s) on the draft RAP, may appeal the Director's decision to approve or deny your RAP application to the Arkansas Pollution Control & Ecology Commission under APC&EC Rule No. 8 (Administrative Procedures). Any person who did not file comments, or did not participate in any public hearing(s) on the draft RAP, may petition for administrative review only to the extent of the changes from the draft to the final RAP decision. Appeals of RAPs may be made to the same extent as for final permit decisions under Rule No. 8 (or a decision under § 270.29 to deny a permit for the active life of a RCRA hazardous waste management facility or unit). Instead of the notice required under 40 CFR 124.19(c) and 124.10, the Director will give public notice of any grant of review of RAPs by the Commission through the same means used to provide notice under § 270.145. The notice will include:

- (1) The briefing schedule for the appeal as provided by the Commission;
 - (2) A statement that any interested person may file an amicus brief with the Commission;
 - and
 - (3) The information specified in § 270.145(c), as appropriate.
- (b) This appeal is a prerequisite to seeking judicial review of these Division actions.

§ 270.160 When does my RAP become effective?

Your RAP becomes effective on the date the Director serves notice to you and all commenters that your RAP is approved unless:

- (a) The Director specifies a later effective date in his decision;
- (b) You or another person has appealed your RAP under § 270.155 (if your RAP is appealed, and the request for review is granted under § 270.155, conditions of your RAP are stayed according to Rule No. 8); or
- (c) No commenters requested a change in the draft RAP, in which case the RAP becomes effective immediately when it is issued.

§ 270.165 When may I begin physical construction of new units permitted under the RAP

You must not begin physical construction of new units permitted under the RAP for treating, storing or disposing of hazardous remediation waste before receiving a finally effective RAP.

How May my RAP be Modified, Revoked and Reissued, or Terminated?

§ 270.170 After my RAP is issued, how may it be modified, revoked and reissued, or terminated?

In your RAP, the Director must specify, either directly or by reference, procedures for future modifications, revocations and reissuance, or terminations of your RAP. These procedures must provide adequate opportunities for public review and comment on any modification, revocation and reissuance, or termination that would significantly change your management of your remediation waste, or that otherwise merits public review and comment. If your RAP has been incorporated into a traditional RCRA permit, as allowed under § 270.85(c), then the RAP will be modified according to the applicable requirements in §§ 270.40 through 270.42, revoked and reissued according to the applicable requirements in §§ 270.41 and 270.43, or terminated according to the applicable requirements of § 270.43.

§ 270.175 For what reasons may the Director choose to modify my final RAP?

- (a) The Director may modify your final RAP on his own initiative only if one or more of the following reasons listed in this section exist(s). If one or more of these reasons do not exist, then the Director will not modify your final RAP, except at your request. Reasons for modification are:
 - (1) You made material and substantial alterations or additions to the activity that justify applying different conditions;
 - (2) The Director finds new information that was not available at the time of RAP issuance and would have justified applying different RAP conditions at the time of issuance;

(3) The standards or rules on which the RAP was based have changed because of new or amended statutes, standards or rules, or by judicial decision after the RAP was issued;

(4) If your RAP includes any schedules of compliance, the Director may find reasons to modify your compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which you as the owner/operator have little or no control and for which there is no reasonably available remedy;

(5) You are not in compliance with conditions of your RAP;

(6) You failed in the application or during the RAP issuance process to disclose fully all relevant facts, or you misrepresented any relevant facts at the time;

(7) The Director has determined that the activity authorized by your RAP endangers human health or the environment and can only be remedied by modifying; or

(8) You have notified the Director (as required in the RAP under § 270.30(l)(3)) of a proposed transfer of a RAP.

(b) Notwithstanding any other provision in this section, when the Director reviews a RAP for a land disposal facility under Sec. 270.195, he may modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in parts 124, 260 through 266 and 270 of this chapter.

(c) The Director will not reevaluate the suitability of the facility location at the time of RAP modification unless new information or standards indicate that a threat to human health or the environment exists that was unknown when the RAP was issued.

§ 270.180 For what reasons may the Director choose to revoke and reissue my final RAP?

(a) The Director may revoke and reissue your final RAP on his own initiative only if one or more reasons for revocation and reissuance exist(s). If one or more reasons do not exist, then the Director will not modify or revoke and reissue your final RAP, except at your request. Reasons for modification or revocation and reissuance are the same as the reasons listed for RAP modifications in Sec. 270.175(a)(5) through (8) if the Director determines that revocation and reissuance of your RAP is appropriate.

(b) The Director will not reevaluate the suitability of the facility location at the time of RAP revocation and reissuance, unless new information or standards indicate that a threat to human health or the environment exists that was unknown when the RAP was issued.

§ 270.185 For what reasons may the Director choose to terminate my final RAP, or deny my renewal application?

The Director may terminate your final RAP on his own initiative, or deny your renewal application for the same reasons as those listed for RAP modifications in § 270.175(a)(5) through (7) if the Director determines that termination of your RAP or denial of your RAP renewal application is appropriate.

§ 270.190 May the decision to approve or deny a modification, revocation and reissuance, or termination of my RAP be administratively appealed?

(a) Any commenter on the modification, revocation and reissuance or termination, or any person who participated in any hearing(s) on these actions, may appeal the Director's decision to approve

a modification, revocation and reissuance, or termination of your RAP, according to § 270.155. Any person who did not file comments or did not participate in any public hearing(s) on the modification, revocation and reissuance or termination, may petition for administrative review only of the changes from the draft to the final RAP decision.

(b) Any commenter on the modification, revocation and reissuance or termination, or any person who participated in any hearing(s) on these actions, may informally appeal the Director's decision to deny a request for modification, revocation and reissuance, or termination to the Arkansas Pollution Control and Ecology Commission. Any person who did not file comments, or did not participate in any public hearing(s) on the modification, revocation and reissuance or termination may petition for administrative review only of the changes from the draft to the final RAP decision.

(c) The process for informal appeals of RAPs is as follows:

(1) The person appealing the decision must send a letter to the Arkansas Pollution Control and Ecology Commission. The letter must briefly set forth the relevant facts.

(2) The Commission has 60 days after receiving the letter to act on it.

(3) If the Commission does not take action on the letter within 60 days after receiving it, the appeal shall be considered denied.

(d) This informal appeal is a prerequisite to seeking judicial review of these Division actions.

§ 270.195 When will my RAP expire?

RAPs must be issued for a fixed term, not to exceed 10 years, although they may be renewed upon approval by the Director in fixed increments of no more than ten years. In addition, the Director must review any RAP for hazardous waste land disposal five years after the date of issuance or reissuance and you or the Director must follow the requirements for modifying your RAP as necessary to assure that you continue to comply with currently applicable requirements in RCRA sections 3004 and 3005.

§ 270.200 How may I renew my RAP if it is expiring?

If you wish to renew your expiring RAP, you must follow the process for application for and issuance of RAPs in this subpart.

§ 270.205 What happens if I have applied correctly for a RAP renewal but have not received approval by the time my old RAP expires?

If you have submitted a timely and complete application for a RAP renewal, but the Director, through no fault of yours, has not issued a new RAP with an effective date on or before the expiration date of your previous RAP, your previous RAP conditions continue in force until the effective date of your new RAP or RAP denial.

Operating Under Your RAP

§ 270.210 What records must I maintain concerning my RAP?

You are required to keep records of:

- (a) All data used to complete RAP applications and any supplemental information that you submit for a period of at least 3 years from the date the application is signed; and
- (b) Any operating and/or other records the Director requires you to maintain as a condition of your RAP.

§ 270.215 How are time periods in the requirements in this subpart and my RAP computed?

(a) Any time period scheduled to begin on the occurrence of an act or event must begin on the day after the act or event. (For example, if your RAP specifies that you must close a staging pile within 180 days after the operating term for that staging pile expires, and the operating term expires on June 1, then June 2 counts as day one of your 180 days, and you would have to complete closure by November 28.)

(b) Any time period scheduled to begin before the occurrence of an act or event must be computed so that the period ends on the day before the act or event. (For example, if you are transferring ownership or operational control of your site, and wish to transfer your RAP, the new owner or operator must submit a revised RAP application no later than 90 days before the scheduled change. Therefore, if you plan to change ownership on January 1, the new owner/operator must submit the revised RAP application no later than October 3, so that the 90th day would be December 31.)

(c) If the final day of any time period falls on a weekend or legal holiday, the time period must be extended to the next working day. (For example, if you wish to appeal the Director's decision to modify your RAP, then you must petition the Arkansas Pollution Control and Ecology Commission within 30 days after the Director has issued the final RAP decision. If the 30th day falls on Sunday, then you may submit your appeal by the Monday after. If the 30th day falls on July 4th, then you may submit your appeal by July 5th.)

(d) Whenever a party or interested person has the right to or is required to act within a prescribed period after the service of notice or other paper upon him by mail, 3 days must be added to the prescribed term. (For example, if you wish to appeal the Director's decision to modify your RAP, then you must petition the Arkansas Pollution Control and Ecology Commission within 30 days after the Director has issued the final RAP decision. However, if the Director notifies you of his decision by mail, then you may have 33 days to petition the Commission.)

§ 270.220 How may I transfer my RAP to a new owner or operator?

(a) If you wish to transfer your RAP to a new owner or operator, you must follow the requirements specified in your RAP for RAP modification to identify the new owner or operator, and incorporate any other necessary requirements. These modifications do not constitute "significant" modifications for purposes of § 270.170. The new owner/operator must submit a revised RAP application no later than 90 days before the scheduled change along with a written agreement containing a specific date for transfer of RAP responsibility between you and the new permittees.

(b) When a transfer of ownership or operational control occurs, you as the old owner or operator must comply with the applicable requirements in Section 264, subsection H (Financial Requirements), of this chapter until the new owner or operator has demonstrated that he is

complying with the requirements in that subpart. The new owner or operator must demonstrate compliance with Section 264, subsection H, of this rule within six months of the date of the change in ownership or operational control of the facility or remediation waste management site. When the new owner/operator demonstrates compliance with Section 264, subsection H, of this rule to the Director, the Director will notify you that you no longer need to comply with Section 264, subsection H, of this rule as of the date of demonstration.

§ 270.225 What must the State or EPA Region report about noncompliance with RAPs?

The State or EPA Region must report noncompliance with RAPs according to the provisions of § 270.5.

Obtaining a RAP for an Off-Site Location

§ 270.230 May I perform remediation waste management activities under a RAP at a location removed from the area where the remediation wastes originated?

(a) You may request a RAP for remediation waste management activities at a location removed from the area where the remediation wastes originated if you believe such a location would be more protective than the contaminated area or areas in close proximity.

(b) If the Director determines that an alternative location, removed from the area where the remediation waste originated, is more protective than managing remediation waste at the area of contamination or areas in close proximity, then the Director may approve a RAP for this alternative location.

(c) You must request the RAP, and the Director will approve or deny the RAP, according to the procedures and requirements in this subpart.

(d) A RAP for an alternative location must also meet the following requirements, which the Director must include in the RAP for such locations:

(1) The RAP for the alternative location must be issued to the person responsible for the cleanup from which the remediation wastes originated;

(2) The RAP is subject to the expanded public participation requirements in 40 CFR 124.31, 124.32, and 124.33;

(3) The RAP is subject to the public notice requirements in 40 CFR 124.10(c).

(4) The site permitted in the RAP may not be located within 61 meters or 200 feet of a fault which has had displacement in the Holocene time (you must demonstrate compliance with this standard through the requirements in § 270.14(b)(11)) (See definitions of terms in § 264.18(a) of this chapter);

Note to paragraph (d)(4): Sites located in political jurisdictions other than those listed in Appendix VI of 40 CFR Part 264, are assumed to be in compliance with this requirement.

(e) These alternative locations are remediation waste management sites, and retain the following benefits of remediation waste management sites:

(1) Exclusion from facility-wide corrective action under § 264.101 of this rule; and

(2) Application of § 264.1(j) of this rule in lieu of Section 264, subsections B, C, and D, of this rule.

Subsection I—Integration with Maximum Achievable Control Technology (MACT) Standards

§ 270.235 Options for incinerators and cement and lightweight aggregate kilns to minimize emissions from startup, shutdown, and malfunction events

(a) Facilities with existing permits.

(1) *Revisions to permit conditions after documenting compliance with MACT.* The owner or operator of a RCRA-permitted incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace may request that the Director address permit conditions that minimize emissions from startup, shutdown, and malfunction events under any of the following options when requesting removal of permit conditions that are no longer applicable according to §§ 264.340(b) and 266.100(b) of this Rule:

(i) Retain relevant permit conditions. Under this option, the Director will:

(A) Retain permit conditions that address releases during startup, shutdown, and malfunction events, including releases from emergency safety vents, as these events are defined in the facility's startup, shutdown, and malfunction plan required under 40 CFR 63.1206(c); and

(B) Limit applicability of those permit conditions only to when the facility is operating under its startup, shutdown, and malfunction plan.

(ii) Revise relevant permit conditions.

(A) Under this option, the Director will:

(1) Identify a subset of relevant existing permit requirements, or develop alternative permit requirements, that ensure emissions of toxic compounds are minimized from startup, shutdown, and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown, and malfunction plan, design, and operating history.

(2) Retain or add these permit requirements to the permit to apply only when the facility is operating under its startup, shutdown, and malfunction plan.

(B) Changes that may significantly increase emissions.

(1) You must notify the Director in writing of changes to the startup, shutdown, and malfunction plan or changes to the design of the source that may significantly increase emissions of toxic compounds from startup, shutdown, or malfunction events, including releases from emergency safety vents. You must notify the Director of such changes within five days of making such changes. You must identify in the notification recommended revisions to permit conditions necessary as a result of the changes to ensure that emissions of toxic compounds are minimized during these events.

(2) The Director may revise permit conditions as a result of these changes to ensure that emissions of toxic compounds are minimized during startup, shutdown, or malfunction events, including releases from emergency safety vents either:

(i) Upon permit renewal, or, if warranted;

(ii) By modifying the permit under §§ 270.41(a) or 270.42.

(iii) Remove permit conditions. Under this option:

(A) The owner or operator must document that the startup, shutdown, and malfunction plan required under 40 CFR 63.1206(c)(2) has been approved by the

Director under 40 CFR 63.1206(c)(2)(ii)(B); and

(B) The Director will remove permit conditions that are no longer applicable according to §§ 264.340(b) and 266.100(b) of this rule.

(2) *Addressing permit condition upon permit reissuance.* The owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that has conducted a comprehensive performance test and submitted to the Director a Notification of Compliance documenting compliance with the standards of 40 CFR Part 63, subpart EEE, may request in the application to reissue the permit for the combustion unit that the Director control emissions from startup, under any of the following options:

(i) RCRA option A.

(A) Under this option, the Director will:

(1) Include, in the permit, conditions that ensure compliance with §§ 264.345(a) and 264.345(c) or §§ 266.102(e)(1) and 266.102(e)(2)(iii) of this chapter to minimize emissions of toxic compounds from startup, shutdown, and malfunction events, including releases from emergency safety vents; and

(2) Specify that these permit requirements apply only when the facility is operating under its startup, shutdown, and malfunction plan.; or

(ii) RCRA option B.

(A) Under this option, the Director will:

(1) Include, in the permit conditions, that ensure emissions of toxic compounds are minimized from startup, shutdown, and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown, and malfunction plan, design, and operating history; and

(2) Specify that these permit requirements apply only when the facility is operating under its startup, shutdown, and malfunction plan.

(B) Changes that may significantly increase emissions.

(1) You must notify the Director in writing of changes to the startup, shutdown, and malfunction plan or changes to the design of the source that may significantly increase emissions of toxic compounds from startup, shutdown, or malfunction events, including releases from emergency safety vents. You must notify the Director of such changes within five days of making such changes. You must identify in the notification recommended revisions to permit conditions necessary as a result of the changes to ensure that emissions of toxic compounds are minimized during these events.

(2) The Director may revise permit conditions as a result of these changes to ensure that emissions of toxic compounds are minimized during startup, shutdown, or malfunction events, including releases from emergency safety vents either:

(i) Upon permit renewal, or, if warranted;

(ii) By modifying the permit under §§ 270.41(a) or 270.42; or

(iii) CAA option. Under this option:

(A) The owner or operator must document that the startup, shutdown, and malfunction plan required under 40 CFR 63.1206(c)(2) has been approved by the Director under 40 CFR 63.1206(c)(2)(ii)(B); and

(B) The Director will omit from the permit conditions that are not applicable under §§ 264.340(b) and 266.100(b) of this rule.

(b) Interim status facilities.

(1) *Interim status operations.* In compliance with §§ 265.340 and 266.100(b) of this Rule, the owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that is operating under the interim status standards of Section 265 or 266 of this Rule may control emissions of toxic compounds during startup, shutdown, and malfunction events under either of the following options after conducting a comprehensive performance test and submitting to the Director a Notification of Compliance documenting compliance with the standards of 40 CFR Part 63, subpart EEE.

(i) RCRA option. Under this option, the owner or operator continues to comply with the interim status emission standards and operating requirements of Sections 265 or 266 of this rule relevant to control of emissions from startup, shutdown, and malfunction events. Those standards and requirements apply only during startup, shutdown, and malfunction events; or

(ii) CAA option. Under this option, the owner or operator is exempt from the interim status standards of Sections 265 or 266 of this rule relevant to control of emissions of toxic compounds during startup, shutdown, and malfunction events upon submission of written notification and documentation to the Director that the startup, shutdown, and malfunction plan required under 40 CFR 63.1206(c)(2) have been approved by the Director under 40 CFR 63.1206(c)(2)(ii)(B).

(2) *Operations under a subsequent RCRA permit.* When an owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that is operating under the interim status standards of Sections 265 or 266 of this Rule submits a RCRA permit application, the owner or operator may request that the Director control emissions from startup, shutdown, and malfunction events under any of the options provided by paragraphs (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this subsection.

(c) New units. Hazardous waste incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace units that become subject to RCRA permit requirements after October 12, 2005 must control emissions of toxic compounds during startup, shutdown, and malfunction events under either of the following options:

(1) Comply with the requirements specified in 40 CFR Part 63.1206(c)(2) ; or

(2) Request to include in the RCRA permit, conditions that ensure emissions of toxic compounds are minimized from startup, shutdown, and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown, and malfunction plan and design. The director will specify that these permit conditions apply only when the facility is operating under its startup, shutdown, and malfunction plan.

Subsection J—RCRA Standardized Permits for Storage and Treatment Units

General Information About Standardized Permits

§ 270.250 What is a RCRA standardized permit?

A RCRA standardized permit (RCRA) is a special type of permit that authorizes you to manage hazardous waste. It is issued under 40 CFR part 124, subsection G, Rule No. 8, and Subsection J of this Section.

§ 270.255 Who is eligible for a standardized permit?

- (a) You may be eligible for a standardized permit if:
 - (1) You generate hazardous waste and then store or non-thermally treat the hazardous waste on-site in containers, tanks, or containment buildings; or
 - (2) You receive hazardous waste generated off-site by a generator under the same ownership as the receiving facility, and then store or non-thermally treat the hazardous waste in containers, tanks, or containment buildings.
 - (3) We will inform you of your eligibility when we make a decision on your permit application.
- (b) [Reserved]

§ 270.260 What requirements of Section 270 apply to a standardized permit?

The following subsections of this Section 270 apply to a standardized permit:

- (a) Subsection A—General Information: All sections.
- (b) Subsection B—Permit Application: §§ 270.10, 270.11, 270.12, 270.13 and 270.29.
- (c) Subsection C—Permit Conditions: All sections.
- (d) Subsection D—Changes to Permit: §§ 270.40, 270.41, and 270.43.
- (e) Subsection E—Expiration and Continuation of Permits: All sections.
- (f) Subsection F—Special Forms of Permits: § 270.67.
- (g) Subsection G—Interim Status: All sections.
- (h) Subsection H—Remedial Action Plans: Does not apply.
- (i) Subsection J—Standardized Permits: All sections.

Applying for a Standardized Permit

§ 270.270 How do I apply for a standardized permit?

You apply for a standardized permit by following the procedures in 40 CFR Part 124, subsection G, Rule No. 8, and this Subsection.

§ 270.275 What information must I submit to the permitting agency to support my standardized permit application?

The information in paragraphs (a) through (j) of this section will be the basis of your standardized permit application. You must submit it to the Director when you submit your Notice of Intent under 40 CFR 124.202(b) requesting coverage under a RCRA standardized permit:

- (a) The Part A information described in § 270.13.
- (b) A meeting summary and other materials required by 40 CFR 124.31.
- (c) Documentation of compliance with the location standards of Section 267.18 and §

270.14(b)(11) of this Rule.

(d) Information that allows the Director to carry out our obligations under other Federal laws required in § 270.3.

(e) Solid waste management unit information required by § 270.14(d).

(f) A certification meeting the requirements of § 270.280, and an audit of the facility's compliance status with Section 267 as required by § 270.280.

(g) A closure plan prepared in accordance with Section 267, Subsection G.

(h) The most recent closure cost estimate for your facility prepared under § 267.142 and a copy of the documentation required to demonstrate financial assurance under § 267.143. For a new facility, you may gather the required documentation 60 days before the initial receipt of hazardous wastes.

(i) If you manage wastes generated offsite, the waste analysis plan.

(j) If you manage waste generated from off-site, documentation showing that the waste generator and the off-site facility are under the same ownership.

§ 270.280 What are the certification requirements?

You must submit a signed certification based on your audit of your facility's compliance with Section 267.

(a) Your certification must read: I certify under penalty of law that:

(1) I have personally examined and am familiar with the report containing the results of an audit conducted of my facility's compliance status with APC&EC Rule No. 23, Section 267, which supports this certification. Based on my inquiry of those individuals immediately responsible for conducting the audit and preparing the report, I believe that my (include paragraph (a)(1)(i) and (ii) this section, whichever applies):

(i) My existing facility complies with all applicable requirements of APC&EC Rule No. 23, Section 267 and will continue to comply until the expiration of the permit; or

(ii) My facility has been designed, and will be constructed and operated to comply with all applicable requirements of Rule No. 23, Section 267, and will continue to comply until expiration of the permit.

(2) I will make all information that I am required to maintain at my facility by §§ 270.290 through 277.315 readily available for review by the permitting agency and the public; and,

(3) I will continue to make all information required by §§ 270.290 through 277.315 available until the permit expires. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

(b) You must sign this certification following the requirements of § 270.11(a)(1) through (3).

(c) This certification must be based upon an audit that you conduct of your facility's compliance status with Section 267 of this Rule. A written audit report, signed and certified as accurate by the auditor, must be submitted to the Director with the 40 CFR 124.202(b) Notice of Intent.

Information That Must Be Kept at Your Facility

§ 270.290 What general types of information must I keep at my facility?

You must keep the following information at your facility:

- (a) A general description of the facility.
- (b) Chemical and physical analyses of the hazardous waste and hazardous debris handled at the facility. At a minimum, these analyses must contain all the information you must know to treat or store the wastes properly under the requirements of Section 267 of this Rule.
- (c) A copy of the waste analysis plan required by § 267.13(b).
- (d) A description of the security procedures and equipment required by § 267.14.
- (e) A copy of the general inspection schedule required by § 267.15(b). You must include in the inspection schedule applicable requirements of §§ 267.174, 267.193, 267.195, 264.1033, 264.1052, 264.1053, 264.1058, and 264.1088.
- (f) A justification of any modification of the preparedness and prevention requirements of Section 267, Subsection C (§§ 267.30 to 267.35).
- (g) A copy of the contingency plan required by Section 267, subsection D.
- (h) A description of procedures, structures, or equipment used at the facility to:
 - (1) Prevent hazards in unloading operations (for example, use ramps, special forklifts),
 - (2) Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, with berms, dikes, trenches),
 - (3) Prevent contamination of water supplies,
 - (4) Mitigate effects of equipment failure and power outages,
 - (5) Prevent undue exposure of personnel to hazardous waste (for example, requiring protective clothing), and
 - (6) Prevent releases to atmosphere,
- (i) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required by § 267.17.
- (j) Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes; describe access road surfacing and load bearing capacity; show traffic control signals).
- (k) [Reserved]
- (l) An outline of both the introductory and continuing training programs you will use to prepare employees to operate or maintain your facility safely as required by § 267.16. A brief description of how training will be designed to meet actual job tasks under § 267.16(a)(3) requirements.
- (m) A copy of the closure plan required by § 267.112. Include, where applicable, as part of the plans, specific requirements in §§ 267.176, 267.201, and 267.1108.
- (n) [Reserved]
- (o) The most recent closure cost estimate for your facility prepared under § 267.142 and a copy of the documentation required to demonstrate financial assurance under § 267.143. For a new facility, you may gather the required documentation 60 days before the initial receipt of hazardous wastes.
- (p) [Reserved]
- (q) Where applicable, a copy of the insurance policy or other documentation that complies with the liability requirements of § 267.147. For a new facility, documentation showing the amount of insurance meeting the specification of § 267.147(a) that you plan to have in effect before initial receipt of hazardous waste for treatment or storage.
- (r) Where appropriate, proof of coverage by a State financial mechanism, as required by §§

267.149 or 267.150.

(s) A topographic map showing a distance of 1,000 feet around your facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). The map must show elevation contours. The contour interval must show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). If your facility is in a mountainous area, you should use large contour intervals to adequately show topographic profiles of facilities. The map must clearly show the following:

- (1) Map scale and date.
- (2) 100-year flood plain area.
- (3) Surface waters including intermittent streams.
- (4) Surrounding land uses (residential, commercial, agricultural, recreational).
- (5) A wind rose (i.e., prevailing wind speed and direction).
- (6) Orientation of the map (north arrow).
- (7) Legal boundaries of your facility site.
- (8) Access control (fences, gates).
- (9) Injection and withdrawal wells both on-site and off-site.
- (10) Buildings; treatment, storage, or disposal operations; or other structure (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.)
- (11) Barriers for drainage or flood control.
- (12) Location of operational units within your facility, where hazardous waste is (or will be) treated or stored. (Include equipment cleanup areas.)

§ 270.300 What container information must I keep at my facility?

If you store or treat hazardous waste in containers, you must keep the following information at your facility:

- (a) A description of the containment system to demonstrate compliance with the container storage area provisions of § 267.173. This description must show the following:
 - (1) Basic design parameters, dimensions, and materials of construction.
 - (2) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.
 - (3) Capacity of the containment system relative to the number and volume of containers to be stored.
 - (4) Provisions for preventing or managing run-on.
 - (5) How accumulated liquids can be analyzed and removed to prevent overflow.
- (b) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with § 267.173(c), including:
 - (1) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids.
 - (2) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(c) Sketches, drawings, or data demonstrating compliance with § 267.174 (location of buffer zone (15m or 50ft) and containers holding ignitable or reactive wastes) and § 267.175(c) (location of incompatible wastes in relation to each other), where applicable.

(d) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with §§ 267.175(a) and (b), and 267.17(b) and (c).

(e) Information on air emission control equipment as required by § 270.315.

§ 270.305 What tank information must I keep at my facility?

If you use tanks to store or treat hazardous waste, you must keep the following information at your facility:

(a) A written assessment that is reviewed and certified by an independent, qualified, Arkansas-registered professional engineer on the structural integrity and suitability for handling hazardous waste of each tank system, as required under §§ 267.191 and 267.192.

(b) Dimensions and capacity of each tank.

(c) Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents).

(d) A diagram of piping, instrumentation, and process flow for each tank system.

(e) A description of materials and equipment used to provide external corrosion protection, as required under § 267.191.

(f) For new tank systems, a detailed description of how the tank system(s) will be installed in compliance with §§ 267.192 and 267.194.

(g) Detailed plans and description of how the secondary containment system for each tank system is or will be designed, constructed, and operated to meet the requirements of §§ 267.195 and 267.196.

(h) [Reserved].

(i) Description of controls and practices to prevent spills and overflows, as required under § 267.198.

(j) For tank systems in which ignitable, reactive, or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with the requirements of §§ 267.202 and 267.203.

(k) Information on air emission control equipment as required by § 270.315.

§ 270.310 What equipment information must I keep at my facility?

If your facility has equipment to which Section 264, subsection BB of this Rule applies, you must keep the following information at your facility:

(a) For each piece of equipment to which Section 264 subsection BB applies:

(1) Equipment identification number and hazardous waste management unit identification.

(2) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(3) Type of equipment (e.g., a pump or a pipeline valve).

(4) Percent by weight of total organics in the hazardous waste stream at the equipment.

(5) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(6) Method of compliance with the standard (e.g., monthly leak detection and repair, or equipped with dual mechanical seals).

(b) For facilities that cannot install a closed-vent system and control device to comply with Section 264, subsection BB on the effective date that the facility becomes subject to the subsection BB provisions, an implementation schedule as specified in § 264.1033(a)(2) of this Rule.

(c) Documentation that demonstrates compliance with the equipment standards in §§ 264.1052 and 264.1059. This documentation must contain the records required under § 264.1064.

(d) Documentation to demonstrate compliance with § 264.1060 must include the following information:

(1) A list of all information references and sources used in preparing the documentation.

(2) Records, including the dates, of each compliance test required by § 264.1033(j).

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of “Course 415: Control of Gaseous Emissions” (incorporated by reference as specified in § 260.11) or other engineering texts acceptable to the Director that present basic control device design information. The design analysis must address the vent stream characteristics and control device operation parameters as specified in § 264.1035(b)(4)(iii).

(4) A statement you signed and dated certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonable expected to occur.

(5) A statement you signed and dated certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater.

§ 270.315 What air emissions control information must I keep at my facility?

If you have air emission control equipment subject to Section 264, subsection CC of this Rule, you must keep the following information at your facility:

(a) Documentation for each floating roof cover installed on a tank subject to §§ 264.1084(d)(1) or (d)(2) that includes information you prepared or the cover manufacturer/vendor provided describing the cover design, and your certification that the cover meets applicable design specifications listed in §§ 264.1084(e)(1) or (f)(1).

(b) Identification of each container area subject to the requirements of Section 264, subsection CC of this Rule, and your certification that the requirements of this subsection are met.

(c) Documentation for each enclosure used to control air pollutant emissions from tanks or containers under requirements of § 264.1084(d)(5) or 264.1086(e)(1)(ii). You must include records for the most recent set of calculations and measurements you performed to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, appendix B.

(d) [Reserved]

(e) Documentation for each closed vent system and control device installed under requirements of § 264.1087 that includes design and performance information as specified in § 270.24 (c) and (d).

(f) An emission monitoring plan for both Method 21 in 40 CFR Part 60, appendix A and control device monitoring methods. This plan must include the following information: monitoring point(s), Monitoring methods for control devices, monitoring frequency, procedures for documenting exceedences, and procedures for mitigating noncompliances.

Modifying a Standardized Permit

§ 270.320 How do I modify my RCRA standardized permit?

You can modify your RCRA standardized permit by following the procedures found in 40 CFR 124.211 through 124.214.

Section 273.

STANDARDS FOR UNIVERSAL WASTE MANAGEMENT

Subsection A -- General

- § 273.1 Scope.
- § 273.2 Applicability -- batteries.
- § 273.3 Applicability -- pesticides.
- § 273.4 Applicability -- mercury-containing devices.
- § 273.5 Applicability -- lamps.
- § 273.6 Applicability -- consumer electronic items.
- § 273.7 [Reserved]
- § 273.8 Applicability -- household and very small quantity generator waste.
- § 273.9 Definitions.

Subsection B -- Standards for Small Quantity Handlers of Universal Waste.

- § 273.10 Applicability.
- § 273.11 Prohibitions.
- § 273.12 Notification.
- § 273.13 Waste management.
- § 273.14 Labeling/marketing.
- § 273.15 Accumulation time limits.
- § 273.16 Employee training.
- § 273.17 Response to releases.
- § 273.18 Off-site shipments.
- § 273.19 Tracking universal waste shipments.
- § 273.20 Exports.

Subsection C -- Standards for Large Quantity Handlers of Universal Waste

- § 273.30 Applicability.
- § 273.31 Prohibitions.
- § 273.32 Notification.
- § 273.33 Waste management.
- § 273.34 Labeling/marketing.
- § 273.35 Accumulation time limits.
- § 273.36 Employee training.
- § 273.37 Response to releases.
- § 273.38 Off-site shipments.

§ 273.39 Tracking universal waste shipments.

§ 273.40 Exports.

Subsection D -- Standards for Universal Waste Transporters

§ 273.50 Applicability.

§ 273.51 Prohibitions.

§ 273.52 Waste management.

§ 273.53 Accumulation time limits.

§ 273.54 Response to releases.

§ 273.55 Off-site shipments.

§ 273.56 Exports.

Subsection E -- Standards for Destination Facilities

§ 273.60 Applicability

§ 273.61 Off-site shipments.

§ 273.62 Tracking universal waste shipments.

Subsection F -- Import requirements

§ 273.70 Imports.

Subsection G -- Petitions to Include Other Wastes under § 273

§ 273.80 General.

§ 273.81 Factors for Petitions to Include Other Wastes under § 273

Subsection A – General

§ 273.1 Scope

(a) This part establishes requirements for managing the following:

(1) Batteries as described in § 273.2;

(2) Pesticides as described in § 273.3;

(3) Mercury-containing devices as described in § 273.4;

(4) Lamps as described in § 273.5: and

(5) *Consumer electronic items as described in § 273.6.*

(b) This section provides an alternative set of management standards in lieu of the rule under Sections 260 through 270.

§ 273.2 Applicability – Batteries

(a) Batteries covered under § 273

(1) The requirements of this section apply to persons managing batteries, as described in § 273.9 of this section, except those listed in paragraph (b) of this section.

(2) Spent lead-acid batteries which are not managed under § 266, Subsection G, are subject to management under this section.

(b) Batteries not covered under § 273. The requirements of this section do not apply to persons managing the following batteries:

(1) Spent lead-acid batteries that are managed under § 266, Subsection G.

(2) Batteries, as described in § 273.9 of this section, that are not yet wastes under § 261 of this Rule, including those that do not meet the criteria for waste generation in paragraph (c) of this section.

(3) Batteries, as described in § 273.9 of this part, that are not hazardous waste. A battery is a hazardous waste if it exhibits one or more of the characteristics identified in § 261, Subsection C.

(c) Generation of waste batteries

(1) A used battery becomes a waste on the date it is discarded (e.g., when sent for reclamation).

(2) An unused battery becomes a waste on the date the handler decides to discard it.

§ 273.3 Applicability – Pesticides

(a) Pesticides covered under § 273. The requirements of this section apply to persons managing pesticides, as described in § 273.9 of this section, meeting the following conditions, except those listed in paragraph (b) of this section.

(1) Recalled pesticides that are:

(i) Stocks of a suspended and canceled pesticide that are part of a voluntary or mandatory recall under FIFRA Section 19(b), including, but not limited to those owned by the registrant responsible for conducting the recall; or

(ii) Stocks of a suspended or cancelled pesticide, or a pesticide that is not in compliance with FIFRA, that are part of a voluntary recall by the registrant.

(2) Stocks of other unused pesticide products that are collected and managed as part of a waste pesticide collection program.

(b) Pesticides not covered under § 273. The requirements of this section do not apply to persons managing the following pesticides:

(1) Recalled pesticides described in paragraph (a)(1) of this section, and unused pesticide products described in paragraph (a)(2) of this section, that are managed by farmers in compliance with § 262.70. (§ 262.70 addresses pesticides disposed of on the farmer's own farm in a manner consistent with the disposal instructions on the pesticide label, providing the container is triple rinsed in accordance with § 261.7(b)(3));

(2) Pesticides not meeting the conditions set forth in paragraph (a) of this section. These pesticides must be managed in compliance with the hazardous waste rules in §§ 260 through 270;

(3) Pesticides that are not wastes under § 261 of this Rule, including those that do not meet the criteria for waste generation in paragraph (c) of this section or those that are not wastes as described in paragraph (d) of this section; and

(4) Pesticides that are not hazardous waste. A pesticide is a hazardous waste if it is listed in § 261, Subsection D or if it exhibits one or more of the characteristics identified in § 261, Subsection C.

(c) When a pesticide becomes a waste

(1) A recalled pesticide described in paragraph (a)(1) of this section becomes a waste on the first date on which both of the following conditions apply:

(i) The generator of the recalled pesticide agrees to participate in the recall; and

- (ii) The person conducting the recall decides to discard (e.g., burn the pesticide for energy recovery).
- (2) An unused pesticide product described in paragraph (a)(2) of this section becomes a waste on the date the generator decides to discard it.
- (d) Pesticides that are not wastes. The following pesticides are not wastes:
 - (1) Recalled pesticides described in paragraph (a)(1) of this section, provided that the person conducting the recall:
 - (i) has not made a decision to discard (e.g., burn for energy recovery) the pesticide. Until such a decision is made, the pesticide does not meet the definition of “solid waste” under § 261.2; thus the pesticide is not a hazardous waste and is not subject to hazardous waste requirements, including § 273 of this Rule. This pesticide remains subject to the requirements of FIFRA; or
 - (ii) has made a decision to use a management option that, under § 261.2, does not cause the pesticide to be a solid waste (i.e., the selected option is use (other than use constituting disposal) or reuse (other than burning for energy recovery), or reclamation). Such a pesticide is not a solid waste and therefore is not a hazardous waste, and is not subject to the hazardous waste requirements including § 273 of this Rule. This pesticide, including a recalled pesticide that is exported to a foreign destination for use or reuse, remains subject to the requirements of FIFRA.
 - (2) Unused pesticide products described in paragraph (a)(2) of this section, if the generator of the unused pesticide product has not decided to discard (e.g., burn for energy recovery) them. These pesticides remain subject to the requirements of FIFRA.

§ 273.4 Applicability – Mercury-Containing Devices

- (a) Mercury-containing devices covered under § 273. The requirements of this section apply to persons managing mercury-containing devices, as described in § 273.9 of this Section, except those listed in paragraph (b) of this section.
- (b) Mercury-containing devices not covered under § 273. The requirements of this section do not apply to persons managing the following mercury-containing devices:
 - (1) Mercury-containing devices that are not yet wastes under § 261 of this Rule. Paragraph (c) of this section describes when mercury-containing devices become wastes.
 - (2) Mercury-containing devices that are not hazardous waste. A mercury-containing device is a hazardous waste if it exhibits one or more of the characteristics identified in § 261, Subsection C, or is listed in § 261, subsection D of this rule; and
 - (3) Equipment and devices from which the mercury-containing components have been removed.
- (c) Generation of waste mercury-containing devices.
 - (1) A used mercury-containing device becomes a waste on the date it is discarded.
 - (2) An unused mercury-containing device becomes a waste on the date the handler decides to discard it.

§ 273.5 Applicability – Lamps

- (a) Lamps covered under this Section 273. The requirements of this section apply to persons

managing lamps as described in § 273.9, except those listed in paragraph (b) of this section.

(b) Lamps not covered under this Section 273. The requirements of this section do not apply to persons managing the following lamps:

(1) Lamps that are not yet wastes under section 261 of this rule as provided in paragraph (c) of this section.

(2) Lamps that are not hazardous waste. A lamp is a hazardous waste if it exhibits one or more of the characteristics identified in section 261, subsection C of this rule.

(3) *Broken lamps and the debris resulting from broken lamps are considered to be a hazardous waste and are subject to the requirements of Sections 260-266, and 268 of this rule.*

(c) Generation of waste lamps.

(1) A used lamp becomes a waste on the date it is discarded.

(2) An unused lamp becomes a waste on the date the handler decides to discard it.

§ 273.6 Applicability – Consumer electronic items

(a) *Consumer electronic items covered under this Section 273. The requirements of this section apply to persons managing consumer electronic items as described in § 273.9, except those listed in paragraph (b) of this section.*

(b) *Consumer electronic items not covered under this Section 273. The requirements of this section do not apply to persons managing the following consumer electronic items:*

(1) *Consumer electronic items that are not yet wastes under section 261 of this rule as provided in paragraph (c) of this section.*

(2) *Consumer electronic items that are not hazardous waste. A consumer electronic item is a hazardous waste if it exhibits one or more of the characteristics identified in section 261, subsection C of this rule.*

(c) *Generation of consumer electronic items.*

(1) *A used consumer electronic item becomes a waste on the date it is discarded.*

(2) *An unused consumer electronic item becomes a waste on the date the handler decides to discard it.*

§ 273.7 [Reserved]

§ 273.8 Applicability – household and very small quantity generator waste

(a) Persons managing the wastes listed below may, at their option, manage them under the requirements of this section:

(1) Household wastes that are exempt under § 261.4(b)(1) of this rule and are also of the same type as the universal wastes defined at § 273.9; and/or

(2) Very small quantity generator wastes that are exempt under § 261.5 of this rule and are also of the same type as the universal wastes defined at § 273.9.

(b) Persons who commingle the wastes described in paragraphs (a)(1) and (a)(2) of this section together with universal waste regulated under this section must manage the commingled waste under the requirements of this section.

§ 273.9 Definitions

“Ampule” means an airtight vial made of glass, plastic, metal, or any combination of these materials.

“Battery” means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

“Cathode ray tube” or “CRT” means a vacuum tube, composed primarily of glass, which is the video display component of a television or computer monitor. An intact CRT means a CRT remaining inside the monitor whose vacuum has not been released. A broken CRT means glass removed from the monitor after the vacuum has been released.

“Consumer electronic item” means an electronic item or other electronic waste containing an intact or broken cathode ray tube, (e.g., television, computer monitor, or other cathode ray tube monitor or display device), personal computer or computer component, audio and/or stereo player, videocassette recorder/player, digital videodisk (DVD) recorder/player, video camera, telephone, facsimile or copying machine, cellular telephone, wireless paging device, or video game console.

“Destination facility” means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in subparagraphs (a) and (c) of sections 273.13 and 273.33. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

“FIFRA” means the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 - 136y).

“Generator” means any person, by site, whose act or process produces hazardous waste identified or listed in § 261 of this Rule or whose act first causes a hazardous waste to become subject to rule.

“Lamp”, also referred to as “universal waste lamp” is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps.

“Large Quantity Handler of Universal Waste” means a universal waste handler (as defined in this section) who accumulates 5,000 kilograms or more total of universal waste (calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

“Mercury-containing device” means a device or a part of a device (including thermostats, but excluding batteries and lamps) which contains elemental mercury integral to its function.

“On-site” means the same or geographically contiguous property which may be divided by public or private right-of-way, provided that the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along the right of way. Non-contiguous properties owned by the same person but connected by a right-of-way which he

controls and to which the public does not have access, are also considered on-site property.

“Pesticide” means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

- (a) is a new animal drug under FFDCA section 201(w), or
- (b) is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or
- (c) is an animal feed under FFDCA section 201(x) that bears or contains any substances described by paragraph (a) or (b) of this section.

“Small Quantity Handler of Universal Waste” means a universal waste handler (as defined in this section) who does not accumulate more than 5,000 kilograms total of universal waste (calculated collectively) at any time.

“Thermostat” means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of § 273.13(c)(2) or § 273.33(c)(2).

“Universal Waste” means any of the following hazardous wastes that are subject to the universal waste requirements of § 273:

- (a) Batteries as described in § 273.2;
- (b) Pesticides as described in § 273.3;
- (c) Mercury-containing devices as described in § 273.4;
- (d) Lamps as described in § 273.5;
- (*Se*) *Consumer electronic items as described in § 273.6.*

“Universal Waste Handler”:

(a) Means:

- (1) A generator (as defined in this section) of universal waste; or
- (2) The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(b) Does not mean:

- (1) A person who treats (except under the provisions of § 273.13(a) or (c), or § 273.33(a) or (c)), disposes of, or recycles universal waste; or
- (2) A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

“Universal Waste Transfer Facility” means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

“Universal Waste Transporter” means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

Subsection B – Standards for Small Quantity Handlers of Universal Waste

§ 273.10 Applicability

This Subsection applies to small quantity handlers of universal waste (as defined in § 273.9).

§ 273.11 Prohibitions

A small quantity handler of universal waste is:

- (a) Prohibited from disposing of universal waste; and
- (b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in § 273.17; or by managing specific wastes as provided in § 273.13.

§ 273.12 Notification

A small quantity handler of universal waste is not required to notify the Division of universal waste handling activities.

§ 273.13 Waste management

(a) Universal waste batteries: A small quantity handler of universal waste must manage universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A small quantity handler of universal waste must contain any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(2) A small quantity handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):

- (i) sorting batteries by type;
- (ii) mixing battery types in one container;
- (iii) discharging batteries so as to remove the electric charge;
- (iv) regenerating used batteries;
- (v) disassembling batteries or battery packs into individual batteries or cells;
- (vi) removing batteries from consumer products; or
- (vii) removing electrolyte from batteries.

(3) A small quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed above, must determine whether the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste identified in § 261, Subsection C.

(i) If the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste, it is subject to all applicable requirements of Sections 260 through 270. The handler is considered the generator of the hazardous electrolyte and/or other waste and is subject to § 262.

(ii) If the electrolyte or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

(b) Universal waste pesticides. A small quantity handler of universal waste must manage universal waste pesticides in a way that prevents releases of any universal waste or component of a universal waste to the environment. The universal waste pesticides must be contained in one or more of the following:

(1) A container that remains closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions; or

(2) A container that does not meet the requirements of paragraph (1), provided that the unacceptable container is overpacked in a container that does meet the requirements of paragraph (1); or

(3) A tank that meets the requirements of § 265 Subsection J, except for §§ 265.197(c), 265.200, and 265.201; or

(4) A transport vehicle or vessel that is closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(c) Universal waste mercury-containing devices: A small quantity handler of universal waste must manage universal waste mercury-containing devices in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A small quantity handler of universal waste must place in a container any universal waste mercury-containing device with non-contained elemental mercury or that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the device, must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, and must be reasonably designed to prevent the escape of mercury into the environment by volatilization or any other means.

(2) A small quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats or other universal waste mercury-containing devices provided the handler:

(i) Removes the ampules in a manner designed to prevent breakage of the ampules;

(ii) Removes ampules only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);

(iii) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from that containment device to a container that meets the requirements of § 262.34;

(iv) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of § 262.34;

(v) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(vi) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(vii) Stores removed ampules in closed, non-leaking containers that are in good condition;

(viii) Packs removed ampules in the container with packing materials adequate to

prevent breakage during storage, handling, and transportation; and

(3) A small quantity handler of universal waste mercury-containing devices that do not contain an ampule may remove the original housing holding the mercury from universal waste mercury-containing devices provided the handler

(i) Immediately seals the original housing holding the mercury with an airtight seal; and

(ii) Follows all requirements for removing ampules and managing removed ampules under paragraph (2) of this subsection; and

(4)(i) A small quantity handler of universal waste who removes mercury-containing ampules from mercury-containing devices or seals mercury from mercury-containing devices in its original housing must determine whether the following exhibit a characteristic of hazardous waste identified in § 261, Subsection C:

(A) Mercury or clean-up residues resulting from spills or leaks; and/or

(B) Other solid waste generated as a result of the removal of mercury-containing ampules or housings (e.g., the remaining mercury-containing device).

(ii) If the mercury, residues, and/or other solid waste exhibit a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of Sections 260 through 270. The handler is considered the generator of the mercury, residues, and/or other waste and must manage it is subject to § 262.

(iii) If the mercury, residues, and/or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

(d) Lamps. A small quantity handler of universal waste must manage lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A small quantity handler of universal waste must contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers and packages must remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(2) A small quantity handler of universal waste must immediately clean up and place in a container any lamp that is broken and must place in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers must be closed, structurally sound, compatible with the contents of the lamps and must lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions.

(e) Consumer electronic items. A small quantity handler of universal waste must manage waste consumer electronic items in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A small quantity handler of universal waste must contain any waste consumer electronic item in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the items. Such containers and packages must remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(2) A small quantity handler of universal waste must immediately clean up and place in a container any CRT that is broken and must place in a container any CRT that shows evidence of breakage, leakage, or damage that could cause the release of lead or other hazardous constituents to the environment. Containers must be closed, structurally sound, compatible with the contents of the items and must lack evidence of leakage, spillage or damage that could cause leakage or releases of lead or other hazardous constituents to the environment under reasonably foreseeable conditions.

(3) A small quantity handler of universal waste may conduct the following activities as long as cathode ray tubes are not broken, and the casing of battery cells is not breached and remains intact and closed):

- (i) sorting consumer electronic items by type;*
- (ii) mixing consumer electronic item types in one container;*
- (iii) disassembling consumer electronic items to separate CRTs, batteries, circuit boards, or other components to facilitate the recycling or reclamation of these components;*

(4) A small quantity handler of universal waste who disassembles consumer electronic items for the purpose of facilitating the recycling or reclamation of individual components of those items must determine whether those components and/or other solid waste resulting from the activities listed above exhibit a characteristic of hazardous waste identified in § 261, Subsection C.

(i) If the separated components of the consumer electronic items and/or other solid waste exhibit a characteristic of hazardous waste, they may continue to be managed as a universal waste under the provisions of this Section. Otherwise, they are subject to all applicable requirements of Sections 260 through 270 of this Rule. The handler is then considered the generator of this hazardous waste and/or other waste and is subject to § 262 of this Rule.

(ii) If the separated component or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

§ 273.14 Labeling/markings

A small quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

(a) Universal waste batteries (i.e., each battery), or a container in which the batteries are contained, must be labeled or marked clearly with any one of the following phrases: “Universal Waste - Battery(ies),” or “Waste Battery(ies),” or “Used Battery(ies);”

(b) A container, (or multiple container package unit), tank, transport vehicle or vessel in which recalled universal waste pesticides as described in § 273.3(a)(1) are contained must be labeled or marked clearly with:

- (1) The label that was on or accompanied the product as sold or distributed; and
- (2) The words “Universal Waste - Pesticide(s)” or “Waste - Pesticide(s);”

(c) A container, tank, or transport vehicle or vessel in which unused pesticide products as described in § 273.3(a)(2) are contained must be labeled or marked clearly with:

- (1)(i) The label that was on the product when purchased, if still legible;

- (ii) If using the labels described in paragraph (1)(i) is not feasible, the appropriate label as required under the Department of Transportation regulation 49 CFR part 172;
- (iii) If using the labels described in paragraphs (c)(1)(i) and (ii) is not feasible, another label prescribed or designated by the waste pesticide collection program administered or recognized by a state; and

(2) The words “Universal Waste - Pesticide(s)” or “Waste - Pesticide(s).”

(d) Universal waste mercury-containing devices (i.e., each device), or a container in which the thermostats or mercury-containing devices are contained, must be labeled or marked clearly with any one of the following phrases: “Universal Waste,” followed by a description of the item or the items in the container – e.g., “Mercury-Containing Device(s),” or “Waste Mercury-Containing Device(s),” “Used Mercury-Containing Device(s),” “Mercury Thermostat(s),” or “Waste Mercury Thermostat(s),” or “Used Mercury Thermostat(s)” .

(e) Each lamp or a container or package in which universal waste lamps are contained must be labeled or marked clearly with one of the following phrases: “Universal Waste—Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).”

(f) *Universal waste consumer electronic items (i.e., each item), or a container in which the consumer electronic items are contained, must be labeled or marked clearly with the phrases: “Universal Waste,” followed by a description of the item or the items in the container – e.g., “Consumer Electronic Items,” or “Electronic Wastes,” or “Used Electronic Items;” “Spent CRTs,” etc.*

§ 273.15 Accumulation time limits

(a) A small quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of paragraph (b) are met.

(b) A small quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal.

(c) A small quantity handler of universal waste who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by:

(1) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;

(2) Marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;

(3) Maintaining an inventory system on-site that identifies the date each universal waste became a waste or was received;

(4) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received;

(5) Placing the universal waste in a specific accumulation area and identifying the earliest

date that any universal waste in the area became a waste or was received; or

(6) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

§ 273.16 Employee training

A small quantity handler of universal waste must inform all employees who handle or have responsibility for managing universal waste. The information must describe proper handling and emergency procedures appropriate to the type(s) of universal waste handled at the facility.

§ 273.17 Response to releases

(a) A small quantity handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A small quantity handler of universal waste must determine whether any material resulting from the release is hazardous waste, and if so, must manage the hazardous waste in compliance with all applicable requirements of Sections 260 through 270. The handler is considered the generator of the material resulting from the release, and must manage it in compliance with § 262.

§ 273.18 Off-site shipments

(a) A small quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility, or a foreign destination.

(b) If a small quantity handler of universal waste self-transport universal waste off-site, the handler becomes a universal waste transporter for those self-transportation activities and must comply with the transporter requirements of Subsection D of this section while transporting the universal waste.

(c) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR 171 -180, a small quantity handler of universal waste must package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable Department of Transportation regulations under 49 CFR parts 172 - 180;

(d) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler must ensure that the receiving handler agrees to receive the shipment.

(e) If a small quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler must either:

(1) Receive the waste back when notified that the shipment has been rejected, or

(2) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(f) A small quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste that he has received from another handler. If a handler rejects a shipment or a portion of a shipment, he must contact the originating handler to notify him of the rejection and to discuss reshipment of the load. The handler must:

(1) Send the shipment back to the originating handler, or

(2) If agreed to by both the originating and receiving handler, send the shipment to a

destination facility.

(g) If a small quantity handler of universal waste receives a shipment containing hazardous waste that is not a universal waste, the handler must immediately notify the Division of the illegal shipment, and provide the name, address, and phone number of the originating shipper. DEQ will provide instructions for managing the hazardous waste.

(h) If a small quantity handler of universal waste receives a shipment of non-hazardous, non-universal waste, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

§ 273.19 Tracking universal waste shipments

A small quantity handler of universal waste is not required to keep records of shipments of universal waste.

§ 273.20 Exports

A small quantity handler of universal waste who sends universal waste to a foreign destination is subject to the requirements of Section 262, subsection H.

Subsection C – Standards for Large Quantity Handlers of Universal Waste

§ 273.30 Applicability

This Subsection applies to large quantity handlers of universal waste (as defined in 273.9).

§ 273.31 Prohibitions

A large quantity handler of universal waste is:

- (a) Prohibited from disposing of universal waste; and
- (b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in § 273.37; or by managing specific wastes as provided in § 273.33.

§ 273.32 Notification

(a)(1) Except as provided in paragraphs (a)(2) and (3) of this section, a large quantity handler of universal waste must have sent written notification of universal waste management to the Division and received an EPA Identification Number, before meeting or exceeding the 5,000 kilogram storage limit.

(2) A large quantity handler of universal waste who has already notified the Division of his hazardous waste management activities and has received an EPA Identification Number is not required to renotify under this section.

(3) A large quantity handler of universal waste who manages recalled universal waste

pesticides as described in 273.3(a)(1) and who has sent notification to EPA as required by 40 CFR 165 is not required to notify for those recalled universal waste pesticides under this section.

(b) This notification must include:

- (1) The universal waste handler's name and mailing address;
- (2) The name and business telephone number of the person at the universal waste handler's site who should be contacted regarding universal waste management activities;
- (3) The address or physical location of the universal waste management activities;
- (4) A list of all of the types of universal waste managed by the handler (e.g., batteries, pesticides, mercury-containing devices, lamps, and *consumer electronic items*);
- (5) A statement indicating that the handler is accumulating more than 5,000 kilograms of universal waste at one time and the types of universal waste (e.g., batteries, pesticides, mercury-containing devices, lamps, and *consumer electronic items*) the handler is accumulating above this quantity.

§ 273.33 Waste management

(a) Universal waste batteries: A large quantity handler of universal waste must manage universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

- (1) A large quantity handler of universal waste must contain any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.
- (2) A large quantity handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):
 - (i) sorting batteries by type;
 - (ii) mixing battery types in one container;
 - (iii) discharging batteries so as to remove the electric charge;
 - (iv) regenerating used batteries;
 - (v) disassembling batteries or battery packs into individual batteries or cells;
 - (vi) removing batteries from consumer products; or
 - (vii) removing electrolyte from batteries.
- (3) A large quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed above, must determine whether the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste identified in § 261, Subsection C.
 - (i) If the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of Sections 260 through 270. The handler is considered the generator of the hazardous electrolyte and/or other waste and is subject to § 262.
 - (ii) If the electrolyte or other solid waste is not hazardous, the handler may manage

the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

(b) Universal waste pesticides: A large quantity handler of universal waste must manage universal waste pesticides in a way that prevents releases of any universal waste or component of a universal waste to the environment. The universal waste pesticides must be contained in one or more of the following:

(1) A container that remains closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions; or

(2) A container that does not meet the requirements of paragraph (1), provided that the unacceptable container is overpacked in a container that does meet the requirements of paragraph (1); or

(3) A tank that meets the requirements of 265 Subsection J, except for §§ 265.197(c), 265.200, and 265.201; or

(4) A transport vehicle or vessel that is closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(c) Universal waste mercury-containing devices: A large quantity handler of universal waste must manage universal waste mercury-containing devices in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste must place in a container any universal waste mercury-containing device with non-contained elemental mercury or that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the mercury-containing device, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, and must be reasonably designed to prevent the escape of mercury into the environment by volatilization or any other means.

(2) A large quantity handler of universal waste may remove mercury-containing ampules from universal waste thermostats or other mercury-containing devices provided the handler:

(i) Removes the ampules in a manner designed to prevent breakage of the ampules;

(ii) Removes ampules only over or in a containment device (e.g., tray or pan sufficient to contain any mercury released from an ampule in case of breakage);

(iii) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container that meets the requirements of § 262.34;

(iv) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of § 262.34;

(v) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(vi) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(vii) Stores removed ampules in closed, non-leaking containers that are in good

condition;

(viii) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation; and

(3) A large quantity handler of universal waste mercury-containing devices that do not contain an ampule may remove the original housing holding the mercury from universal waste mercury-containing devices provided the handler:

(i) immediately seals the original housing holding the mercury with an airtight seal to prevent the release of any mercury to the environment; and

(ii) Follows all requirements for removing ampules and managing removed ampules under paragraph (2) of this subsection; and

(4)(i) A large quantity handler of universal waste who removes mercury-containing ampules from mercury-containing devices or seals mercury from mercury-containing devices must determine whether the following exhibit a characteristic of hazardous waste identified in § 261, Subsection C:

(A) Mercury or clean-up residues resulting from spills or leaks; and/or

(B) Other solid waste generated as a result of the removal of mercury-containing ampules or housing (e.g., the remaining mercury-containing device).

(ii) If the mercury, residues, and/or other solid waste exhibit a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of Sections 260 through 270 of this Rule. The handler is considered the generator of the mercury, residues, and/or other waste and is subject to § 262 of this rule.

(iii) If the mercury, residues, and/or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

(d) Lamps. A large quantity handler of universal waste must manage lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste must contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers and packages must remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(2) A large quantity handler of universal waste must immediately clean up and place in a container any lamp that is broken and must place in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers must be closed, structurally sound, compatible with the contents of the lamps and must lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions.

(e) Consumer electronic items. A large quantity handler of universal waste must manage waste consumer electronic items in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste must contain any waste consumer electronic item in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the items. Such containers and packages must

remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(2) A large quantity handler of universal waste must immediately clean up and place in a container any CRT that is broken and must place in a container any CRT that shows evidence of breakage, leakage, or damage that could cause the release of lead or other hazardous constituents to the environment. Containers must be closed, structurally sound, compatible with the contents of the items and must lack evidence of leakage, spillage or damage that could cause leakage or releases of lead or other hazardous constituents to the environment under reasonably foreseeable conditions.

(3) A large quantity handler of universal waste may conduct the following activities as long as cathode ray tubes are not broken and the casing of battery cells is not breached and remains intact and closed:

- (i) sorting consumer electronic items by type;*
- (ii) mixing consumer electronic item types in one container;*
- (iii) disassembling consumer electronic items to separate CRTs, batteries, circuit boards, or other components to facilitate the recycling or reclamation of these components;*

(4) A large quantity handler of universal waste who disassembles consumer electronic items for the purpose of facilitating the recycling or reclamation of individual components of those items must determine whether those components and/or other solid waste resulting from the activities listed above exhibit a characteristic of hazardous waste identified in § 261, Subsection C.

(i) If the separated components of the consumer electronic items and/or other solid waste exhibit a characteristic of hazardous waste, they may continue to be managed as a universal waste under the provisions of this Section. Otherwise, they are subject to all applicable requirements of Sections 260 through 270 of this Rule. The handler is then considered the generator of this hazardous waste and/or other waste and is subject to § 262 of this Rule.

(ii) If the separated component or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

§ 273.34 Labeling/markings

A large quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

(a) Universal waste batteries (i.e., each battery), or a container or tank in which the batteries are contained, must be labeled or marked clearly with any one of the following phrases: “Universal Waste - Battery(ies),” or “Waste Battery(ies),” or “Used Battery(ies),”

(b) A container (or multiple container package unit), tank, transport vehicle or vessel in which recalled universal waste pesticides as described in § 273.3(a)(1) are contained must be labeled or marked clearly with:

- (1) The label that was on or accompanied the product as sold or distributed; and
- (2) The words “Universal Waste - Pesticide(s)” or “Waste - Pesticide(s);”

(c) A container, tank, or transport vehicle or vessel in which unused pesticide products as

described in § 273.3(a)(2) are contained must be labeled or marked clearly with:

- (1)(i) The label that was on the product when purchased, if still legible;
 - (ii) If using the labels described in paragraph (1)(i) is not feasible, the appropriate label as required under the Department of Transportation regulation 49 CFR part 172;
 - (iii) If using the labels described in paragraphs (1)(i) and (1)(ii) is not feasible, another label prescribed or designated by the pesticide collection program; and
 - (2) The words “Universal Waste - Pesticide(s)” or “Waste - Pesticide(s).”
- (d)(1) Mercury-containing devices (i.e., each device), or a container in which the mercury-containing device is contained, must be labeled or marked clearly with any of the following phrases: “Universal Waste—Mercury Containing Device(s),” “Waste Mercury-Containing Devices,” or “Used Mercury-Containing Devices.”
- (2) A universal waste mercury-containing thermostat or container containing only universal waste mercury-containing thermostats may be labeled or marked clearly with any of the following phrases: “Universal Waste—Mercury Thermostat(s),” “Waste Mercury Thermostat(s),” or “Used Mercury Thermostat(s).”
- (e) Each lamp or a container or package in which universal waste lamps are contained must be labeled or marked clearly with any one of the following phrases: “Universal Waste—Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s).”
- (f) *Universal waste consumer electronic items (i.e., each item), or a container in which the consumer electronic items are contained, must be labeled or marked clearly with the phrases: “Universal Waste,” followed by a description of the item or the items in the container – e.g., “Consumer Electronic Items”, or “Electronic Wastes,” or “Used Electronic Items;” etc.*

§ 273.35 Accumulation time limits

- (a) A large quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of paragraph (b) are met.
- (b) A large quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity was solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal.
- (c) A large quantity handler of universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by:
- (1) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;
 - (2) Marking or labeling the individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;
 - (3) Maintaining an inventory system on-site that identifies the date the universal waste being accumulated became a waste or was received;
 - (4) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal

waste became a waste or was received;

(5) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or

(6) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

§ 273.36 Employee training

A large quantity handler of universal waste must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.

§ 273.37 Response to releases

(a) A large quantity handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A large quantity handler of universal waste must determine whether any material resulting from the release is hazardous waste, and if so, must manage the hazardous waste in compliance with all applicable requirements of Sections 260 through 270. The handler is considered the generator of the material resulting from the release, and is subject to § 262.

§ 273.38 Off-site shipments

(a) A large quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility, or a foreign destination.

(b) If a large quantity handler of universal waste self-transportes universal waste off-site, the handler becomes a universal waste transporter for those self-transportation activities and must comply with the transporter requirements of Subsection D of this section while transporting the universal waste.

(c) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR 171 -180, a large quantity handler of universal waste must package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable Department of Transportation regulations under 49 CFR parts 172 - 180;

(d) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler must ensure that the receiving handler agrees to receive the shipment.

(e) If a large quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler must either:

(1) Receive the waste back when notified that the shipment has been rejected, or

(2) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(f) A large quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste that he has received from another handler. If a handler rejects a shipment or a portion of a shipment, he must contact the originating handler to notify him of the rejection and to discuss reshipment of the load. The handler must:

- (1) Send the shipment back to the originating handler, or
- (2) If agreed to by both the originating and receiving handler, send the shipment to a destination facility.
- (g) If a large quantity handler of universal waste receives a shipment containing hazardous waste that is not a universal waste, the handler must immediately notify the Division of the illegal shipment, and provide the name, address, and phone number of the originating shipper. The Division will provide instructions for managing the hazardous waste.
- (h) If a large quantity handler of universal waste receives a shipment of non-hazardous, non-universal waste, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste rules and regulations.

§ 273.39 Tracking universal waste shipments

(a) Receipt of shipments. A large quantity handler of universal waste must keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading, movement document, or other shipping document. The record for each shipment of universal waste received must include the following information:

- (1) The name and address of the originating universal waste handler or foreign shipper from whom the universal waste was sent;
- (2) The quantity of each type of universal waste received (e.g., batteries, pesticides, thermostats);
- (3) The date of receipt of the shipment of universal waste.

(b) Shipments off-site. A large quantity handler of universal waste must keep a record of each shipment of universal waste sent from the handler to other facilities. The record may take the form of a log, invoice, manifest, bill of lading, movement document or other shipping document. The record for each shipment of universal waste sent must include the following information:

- (1) The name and address of the universal waste handler, destination facility, or foreign destination to whom the universal waste was sent;
- (2) The quantity of each type of universal waste sent (e.g., batteries, pesticides, thermostats);
- (3) The date the shipment of universal waste left the facility.

(c) Record retention. (1) A large quantity handler of universal waste must retain the records described in paragraph (a) of this section for at least three years from the date of receipt of a shipment of universal waste.

- (2) A large quantity handler of universal waste must retain the records described in paragraph (b) of this section for at least three years from the date a shipment of universal waste left the facility.

§ 273.40 Exports

A large quantity handler of universal waste who sends universal waste to a foreign destination is subject to the requirements of Section 262, subsection H.

Subsection D – Standards for Universal Waste Transporters

§ 273.50 Applicability

This Subsection applies to universal waste transporters (as defined in 273.9).

§ 273.51 Prohibitions

A universal waste transporter is:

- (a) Prohibited from disposing of universal waste; and
- (b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in § 273.54.

§ 273.52 Waste management

(a) A universal waste transporter must comply with all applicable U.S. Department of Transportation regulations in 49 CFR part 171 through 180 for transport of any universal waste that meets the definition of hazardous material in 49 CFR 171.8. For purposes of the Department of Transportation regulations, a material is considered a hazardous waste if it is subject to the Hazardous Waste Manifest Requirements of the U.S. Environmental Protection Agency specified in 40 CFR 262. Because universal waste does not require a hazardous waste manifest, it is not considered hazardous waste under the Department of Transportation regulations.

(b) Some universal waste materials are regulated by the Department of Transportation as hazardous materials because they meet the criteria for one or more hazard classes specified in 49 CFR 173.2. As universal waste shipments do not require a manifest under 262, they may not be described by the DOT proper shipping name “hazardous waste, (l) or (s), n.o.s.”, nor may the hazardous material’s proper shipping name be modified by adding the word “waste”.

§ 273.53 Storage time limits

(a) A universal waste transporter may only store the universal waste at a universal waste transfer facility for ten days or less.

(b) If a universal waste transporter stores universal waste for more than ten days, the transporter becomes a universal waste handler and must comply with the applicable requirements of Subsections B or C of this section while storing the universal waste.

§ 273.54 Response to releases

(a) A universal waste transporter must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A universal waste transporter must determine whether any material resulting from the release is hazardous waste, and if so, it is subject to all applicable requirements of Sections 260 through 272. If the waste is determined to be a hazardous waste, the transporter is subject to § 262.

§ 273.55 Off-site shipments

(a) A universal waste transporter is prohibited from transporting the universal waste to a place other than a universal waste handler, a destination facility, or a foreign destination.

(b) If the universal waste being shipped off-site meets the Department of Transportation’s

definition of hazardous materials under 49 CFR 171.8, the shipment must be properly described on a shipping paper in accordance with the applicable Department of Transportation regulations under 49 CFR part 172.

§ 273.56 Exports

A universal waste transporter transporting a shipment of universal waste to a foreign destination is subject to the requirements of section 262, subsection H.

Subsection E – Standards for Destination Facilities

§ 273.60 Applicability

(a) The owner or operator of a destination facility (as defined in 273.9) is subject to all applicable requirements of Sections 264, 265, 266, 268, and 270, of this Rule, and the notification requirement under Section 3010 of RCRA:

(b) The owner or operator of a destination facility that recycles a particular universal waste without storing that universal waste before it is recycled must comply with § 261.6(c)(2).

§ 273.61 Off-site shipments

(a) The owner or operator of a destination facility is prohibited from sending or taking universal waste to a place other than a universal waste handler, another destination facility or foreign destination.

(b) The owner or operator of a destination facility may reject a shipment containing universal waste, or a portion of a shipment containing universal waste. If the owner or operator of the destination facility rejects a shipment or a portion of a shipment, he must contact the shipper to notify him of the rejection and to discuss reshipment of the load. The owner or operator of the destination facility must:

(1) Send the shipment back to the original shipper, or

(2) If agreed to by both the shipper and the owner or operator of the destination facility, send the shipment to another destination facility.

(c) If the a owner or operator of a destination facility receives a shipment containing hazardous waste that is not a universal waste, the owner or operator of the destination facility must immediately notify the Division of the illegal shipment, and provide the name, address, and phone number of the shipper. The Division will provide instructions for managing the hazardous waste.

(d) If the owner or operator of a destination facility receives a shipment of non-hazardous, non-universal waste, the owner or operator may manage the waste in any way that is in compliance with applicable federal or state solid waste rules and regulations.

§ 273.62 Tracking universal waste shipments

(a) The owner or operator of a destination facility must keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading, movement document, or other shipping document. The record for each shipment of universal waste received must include the following information:

- (1) The name and address of the universal waste handler, destination facility, or foreign shipper from whom the universal waste was sent;
 - (2) The quantity of each type of universal waste received (e.g., batteries, pesticides, thermostats);
 - (3) The date of receipt of the shipment of universal waste.
- (b) The owner or operator of a destination facility must retain the records described in paragraph (a) of this section for at least three years from the date of receipt of a shipment of universal waste.

Subsection F – Import Requirements

§ 273.70 Imports

Persons managing universal waste that is imported from a foreign country into the United States are subject to the requirements of section 262 subsection H and the applicable requirements of this part, immediately after the waste enters the United States, as indicated in paragraphs (a) through (c) of this section :

- (a) A universal waste transporter is subject to the universal waste transporter requirements of Subsection D of this Section.
- (b) A universal waste handler is subject to the small or large quantity handler of universal waste requirements of Subsections B or C, as applicable.
- (c) An owner or operator of a destination facility is subject to the destination facility requirements of Subsection E of this Section.
- (d) Persons managing universal waste that is imported from an OECD country as specified in § 262.58(a)(1) are subject to paragraphs (a) through (c) of this section, in addition to the requirements of section 262, subsection H.

Subsection G – Petitions to Include Other Wastes under § 273

§ 273.80 General

- (a) Any person seeking to add a hazardous waste or a category of hazardous waste to this part may petition for a regulatory amendment under this Subsection, § 260.20 and § 260.23.
- (b) To be successful, the petitioner must demonstrate to the satisfaction of the Commission that the rule under the universal waste rules of § 273 is: appropriate for the waste or category of waste; will improve management practices for the waste or category of waste; and will improve implementation of the hazardous waste program. The petition must include the information required by § 260.20(b). The petition should also address as many of the factors listed in § 273.81 as are appropriate for the waste or waste category addressed in the petition.
- (c) The Commission will evaluate petitions using the factors listed in § 273.81. The Commission will grant or deny a petition using the factors listed in § 273.81. The decision will be based on the weight of evidence showing that the rule under § 273 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the hazardous waste program.

§ 273.81 Factors for Petitions to Include Other Wastes under § 273

(a) The waste or category of waste, as generated by a wide variety of generators, is listed in Subsection D of Section 261 of this Rule, or (if not listed) a proportion of the waste stream exhibits one or more characteristics of hazardous waste identified in Subsection C of § 261 of this Rule. (When a characteristic waste is added to the universal waste rules of § 273 by using a generic name to identify the waste category (e.g., batteries), the definition of universal waste in § 260.10 and § 273.9 will be amended to include only the hazardous waste portion of the waste category (e.g., hazardous waste batteries). Thus, only the portion of the waste stream that does exhibit one or more characteristics (i.e., is hazardous waste) is subject to the universal waste rules of § 273;

(b) The waste or category of waste is not exclusive to a specific industry or group of industries, is commonly generated by a wide variety of types of establishments (including, for example, households, retail and commercial businesses, office complexes, very small quantity generators, small businesses, government organizations, as well as large industrial facilities);

(c) The waste or category of waste is generated by a large number of generators (e.g., more than 1,000 nationally) and is frequently generated in relatively small quantities by each generator;

(d) Systems to be used for collecting the waste or category of waste (including packaging, marking, and labeling practices) would ensure close stewardship of the waste;

(e) The risk posed by the waste or category of waste during accumulation and transport is relatively low compared to other hazardous wastes, and specific management standards proposed or referenced by the petitioner (e.g., waste management requirements appropriate to be added to §§ 273.13, 273.33, and 273.52; and/or applicable Department of Transportation requirements) would be protective of human health and the environment during accumulation and transport;

(f) Regulation of the waste or category of waste under § 273 will increase the likelihood that the waste will be diverted from non-hazardous waste management systems (e.g, the municipal waste stream, non-hazardous industrial or commercial waste stream, municipal sewer or stormwater systems) to recycling, treatment, or disposal in compliance with the Hazardous Waste Management Act.

(g) Regulation of the waste or category of waste under § 273 will improve implementation of and compliance with the hazardous waste regulatory program; and/or

(h) Such other factors as may be appropriate.

Section 279.

STANDARDS FOR THE MANAGEMENT OF USED OIL

Subsection A -- Definitions

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Subsection I -- Standards for Use as a Dust Suppressant and Disposal of Used Oil

§ 279.80 Applicability

§ 279.81 Disposal

§ 279.82 Use as a dust suppressant

Subsection A – Definitions

§ 279.1 Definitions

Terms that are defined in §§ 260.10 and 261.1 of this rule and 40 CFR Part 280 have the same meanings when used in this part.

“**Aboveground tank**” means a tank used to store or process used oil that is not an underground storage tank as defined in 40 CFR 280.12.

“**Container**” means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

“**Do-it-yourselfer used oil collection center**” means any site or facility that accepts and/or aggregates and stores used oil collected only from household do-it-yourselfers.

“**Existing tank**” means a tank that is used for the storage or processing of used oil and that is in operation or for which installation has commenced on or prior to the effective date of the rules in this Section. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin installation of the tank and if either (1) a continuous on-site installation program has begun, or (2) the owner or operator has entered into contractual obligations - which cannot be modified or cancelled without substantial loss - for installation of the tank to be completed within a reasonable time.

“**Household do-it-yourselfer used oil**” means oil that is generated from households, such as used oil generated by individuals who generate used oil through the maintenance of their personal vehicles.

“**Household do-it-yourselfer used oil generator**” means an individual who generates household do-it-yourselfer used oil.

“**New tank**” means a tank that will be used to store or process used oil and for which installation has commenced after the effective date of the rules in this Section.

“**Petroleum refining facility**” means an establishment primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, and lubricants, through fractionation, straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking or other processes (i.e., facilities classified as SIC 2911).

“**Processing**” means chemical or physical operations designed to produce from used oil, or to make used oil more amenable for production of, fuel oils, lubricants, or other used-oil derived products. Processing includes, but is not limited to, blending used oil with virgin petroleum products, blending used oils to meet the fuel specification, filtration, simple distillation, chemical or physical separation, and re-refining.

“**Re-refining distillation bottoms**” means the heavy fraction produced by vacuum distillation

of filtered and dehydrated used oil. The composition of still bottoms varies with column operation and feedstock.

“Tank” means any stationary device, designed to contain an accumulation of used oil which is constructed primarily of non-earthen materials, (e.g., wood, concrete, steel, plastic) which provides structural support.

“Used oil” means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of that use is contaminated by physical or chemical impurities.

“Used oil aggregation point” means any site or facility that accepts, aggregates, and/or stores used oil collected only from other used oil generation sites owned or operated by the owner or operator of the aggregation point, from which used oil is transported to the aggregation point in shipments of no more than 55 gallons. Used oil aggregation points may also accept used oil from household do-it-yourselfers.

“Used oil burner” means a facility where used oil not meeting the specification requirements in § 279.11 is burned for energy recovery in devices identified in § 279.61(a).

“Used oil collection center” means any site or facility that is registered, licensed, permitted, or recognized by a state, county, or municipal government to manage used oil and accepts or aggregates and stores used oil collected from used oil generators regulated under Subsection C of this Section who bring used oil to the collection center in shipment of no more than 55 gallons under the provisions of Section 279.24. Used oil collection centers may also accept used oil from household do-it-yourselfers.

“Used oil fuel marketer” means any person who conducts either of the following activities:

- (1) Directs a shipment of off-specification used oil from their facility to a used oil burner; or
- (2) First claims that used oil that is to be burned for energy meets the used oil specifications set forth in § 279.11 of this Section.

“Used oil generator” means any person, by site, whose act or process produces used oil or whose act first causes used oil to become subject to regulation.

“Used oil processor” or **“used oil re-refiner”** means a facility that processes used oil.

“Used oil transfer facility” means any transportation related facility including loading docks, parking areas, storage areas and other areas where shipments of used oil are held for more than 24 hours and not longer than 35 days during the normal course of transportation or prior to an activity performed pursuant to § 279.20(b)(2). Transfer facilities that store used oil for more than 35 days are subject to regulation under subsection F of this Section.

“Used oil transporter” means any person who transports used oil, any person who collects used oil from more than one generator and transports the collected oil, and owners and operators of used oil transfer facilities. Used oil transporters may consolidate or aggregate loads of used oil for purposes of transportation but, with the following exception, may not process used oil. Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (e.g., settling and water separation) but that are not designed to produce (or make more amenable for production of) used oil derived products or used oil fuel.

Subsection B – Applicability

§ 279.10 Applicability

This section identifies those materials which are subject to regulation as used oil under this

Section. This section also identifies some materials that are not subject to regulation as used oil under this Section, and indicates whether these materials may be subject to regulation as hazardous wastes under Sections 260 through 270 of this rule.

(a) Used oil. The Division presumes that used oil is to be recycled unless a used oil handler disposes of used oil, or sends used oil for disposal. Except as provided in § 279.11, the rules of this Section apply to used oil, and to materials identified in this Section as being subject to regulation as used oil, whether or not the used oil or material exhibits any characteristic of hazardous waste identified in Subsection C of Section 261 of this rule.

(b) Mixtures of used oil and hazardous waste

(1) Listed hazardous wastes.

(i) Mixtures of used oil and any hazardous waste that is listed in Subsection D of Section 261 of this rule are subject to as hazardous waste under Sections 260 through 270 of this rule, rather than as used oil under this Section.

(ii) Rebuttable presumption for used oil. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with a halogenated hazardous waste listed in Subsection D, Section 261 of this rule. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste, for example by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Section 261 of this rule).

(A) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in § 279.24(c), to reclaim metalworking oils/fluids. The presumption *does* apply to metalworking oils and fluids if such oils and fluids are recycled in any other manner or disposed.

(B) The rebuttable presumption does not apply to used oils contaminated with chloroflourocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption *does* apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(2) Characteristic hazardous waste. Mixtures of used oil and hazardous waste that solely exhibit one or more of the hazardous waste characteristics identified in Subsection C of Section 261 of this rule and mixtures of used oil and hazardous waste that is listed in Subsection D of Section 261 solely because it exhibits one or more of the characteristics of hazardous waste identified in Subsection C are subject to :

(i) Except as provided in paragraph (b)(2)(iii) of this section, regulation as hazardous waste under Sections 260 through 270 of this rule rather than as used oil under this section, if the resultant mixture exhibits any characteristics of hazardous waste identified in Subsection C of Section 261 of this rule.

(ii) Except as specified in § 279.10(b)(2)(iii), regulation as used oil under this Section, if the resultant mixture does not exhibit any characteristics of hazardous waste identified in Subsection C of Section 261 of this rule.

(iii) Regulation as used oil under this Section, if the mixture is of used oil and a waste which is hazardous solely because it exhibits the characteristic of ignitability (e.g., ignitable-only mineral spirits), provided that the resultant mixture does not exhibit the

characteristic of ignitability under § 261.21 of this rule.

(3) Very small quantity generator hazardous waste. Mixtures of used oil and very small quantity generator hazardous waste are subject to regulation as used oil under this Section.

(c) Materials containing or otherwise contaminated with used oil. (1) Except as provided in paragraph (c)(2) of this Subsection, materials containing or otherwise contaminated with used oil from which the used oil has been properly drained or removed to the extent possible such that no signs of free-flowing used oil remain in or on the material:

(i) Are not used oil and thus not subject to this Section; and

(ii) If applicable are subject to the hazardous waste rules of Sections 261 through 266, 268, and 270 of this Rule.

(2) Materials containing or otherwise contaminated with used oil that are burned for energy recovery are subject to regulation as used oil under this Section.

(3) Used oil drained or removed from materials containing or otherwise contaminated with used oil is subject to regulation as used oil under this Section.

(d) Mixtures of used oil with products.

(1) Except as provided in paragraph (d)(2) of this section, mixtures of used oil and fuels or other fuel products are subject to regulation as used oil under this Section.

(2) Mixtures of used oil and diesel fuel mixed on-site by the generator of the used oil for use in the generator's own vehicles are not subject to this Section once the used oil and diesel fuel have been mixed. Prior to the mixing, the used oil is subject to the requirements of Subsection C of this Section.

(e) Materials derived from used oil.

(1) Materials that are reclaimed from used oil that are used beneficially and are not burned for energy recovery or used in a manner constituting disposal (e.g., re-refined lubricants) are:

(i) Not used oil, and therefore not subject to this part, and

(ii) Not solid wastes, and are thus not subject to the hazardous waste rules of Sections 260-270 of this rule as provided for by § 261.3(c)(2)(i) of this rule.

(2) Materials produced from used oil that are burned for energy recovery (e.g., used oil fuels) are subject to regulation as used oil under this Section.

(3) Except as provided for in paragraph (e)(4) below, materials derived from used oil that are used in a manner constituting disposal are:

(i) Not used oil, and therefore not subject to this Section, and

(ii) Are solid wastes, and thus are subject to the hazardous waste rules of Sections 260-270 of this rule if the materials are listed or identified as hazardous waste.

(4) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products are not subject to this Section.

(f) Wastewater. Wastewater, the discharge of which is subject to regulation under either Section 402 or 307(b) of the Federal Clean Water Act and the Water and Air Pollution Control Act (including wastewaters at facilities which have eliminated the discharge of wastewater), contaminated with *de minimis* quantities of used oil are not subject to the requirements of this part. For the purpose of this Section, "*de minimis*" quantities of used oil are defined as small spills, leaks, or drippings from pumps, machinery, pipes, and other similar equipment during normal operations or small amounts of oil lost to the wastewater treatment system during washing or draining operations. This exception will not apply if the used oil is discarded as a result of abnormal manufacturing operations resulting in substantial leaks, spills, or other releases, or to

used oil recovered from wastewaters.

(g) Used oil introduced into crude oil pipelines or a petroleum refining facility. (1) Used oil mixed with crude oil or natural gas liquids (e.g., in a production separator or crude oil stock tank) for insertion into a crude oil pipeline is exempt from the requirements of this Section. The used oil is subject to the requirements of this Section prior to the mixing of used oil with crude oil or natural gas liquids.

(2) Mixtures of used oil and crude oil or natural gas liquids containing less than 1% used oil that are being stored or transported to a crude oil pipeline or petroleum refining facility for insertion into the refining process at a point prior to crude distillation or catalytic cracking are exempt from the requirements of this Section.

(3) Used oil that is inserted into the petroleum refining facility process before crude distillation or catalytic cracking without prior mixing with crude oil is exempt from the requirements of this Section provided that the used oil constitutes less than 1% of the crude oil feed to any petroleum refining facility process unit at any given time. Prior to insertion into the petroleum refining facility process, the used oil is subject to the requirements of this Section.

(4) Except as provided in paragraph (g)(5) of this section, used oil that is introduced into a petroleum refining facility process after crude distillation or catalytic cracking is exempt from the requirements of this Section only if the used oil meets the specification of § 279.11. Prior to insertion into the petroleum refining facility process, the used oil is subject to the requirements of this Section.

(5) Used oil that is incidentally captured by a hydrocarbon recovery system or wastewater treatment system as part of routine process operations at a petroleum refining facility and inserted into the petroleum refining facility process is exempt from the requirements of this Section. This exemption does not extend to used oil which is intentionally introduced into a hydrocarbon recovery system (e.g., by pouring collected used oil into the waste water treatment system).

(6) Tank bottoms from stock tanks containing exempt mixtures of used oil and crude oil or natural gas liquids are exempt from the requirements of this Section.

(h) Used oil on vessels. Used oil produced on vessels from normal shipboard operations is not subject to this Section until it is transported ashore.

(i) Used oil containing PCBs. Used oil containing PCBs (as defined at 40 CFR 761.3) at any concentration less than 50 ppm is subject to the requirements of this Section unless, because of dilution, it is regulated under 40 CFR Part 761 as a used oil containing PCBs at 50 ppm or greater. PCB-containing used oil subject to the requirements of this Section may also be subject to the prohibitions and requirements found at 40 CFR Part 761, including § 761.20(d) and (e). Used oil containing PCBs at concentrations of 50 ppm or greater is not subject to the requirements of this Section, but is subject to regulation under 40 CFR Part 761. No person may avoid these provisions by diluting used oil containing PCBs, unless otherwise specifically provided for in this Rule or 40 CFR Part 761.

§ 279.11 Used oil specifications

Used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or other treatment is subject to regulation under this Section unless it is shown not to exceed any of

the allowable levels of the constituents and properties shown in Table 1. Once used oil that is to be burned for energy recovery has been shown not to exceed any allowable level and the person making that showing complies with §§ 279.72, 279.73, and 279.74(b), the used oil is no longer subject to this Section.

TABLE 1.

USED OIL NOT EXCEEDING ANY ALLOWABLE LEVEL SHOWN BELOW IS NOT SUBJECT TO THIS SECTION WHEN BURNED FOR ENERGY RECOVERY¹

| Constituent/Property | Allowable Level |
|----------------------|--------------------------------|
| Arsenic | 5 ppm maximum |
| Cadmium | 2 ppm maximum |
| Chromium | 10 ppm maximum |
| Lead | 100 ppm maximum |
| Flash Point | 100 °F minimum |
| Total Halogens | 4,000 ppm maximum ² |

(1) The allowable levels do not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (See § 279.10(b)).

(2) Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under §279.10(b)(1). Such used oil is subject to Subsection H of Section 266 of this rule rather than this Section when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

(3) Applicable standards for the burning of used oil containing PCBs are imposed by 40 CFR 761.20(e).

§ 279.12 Prohibitions

(a) Surface impoundment prohibition. Used oil shall not be managed in surface impoundments or waste piles unless the units are subject to regulation under Sections 264 or 265 of this rule.

(b) Use as a dust suppressant. Except as provide at § 279.82, the use of used oil as a dust suppressant is prohibited.

(c) Burning in particular units. Off-specification used oil fuel may be burned for energy recovery only in the following devices:

(1) Industrial furnaces identified in § 260.10 of this rule.

(2) Boilers, as defined in § 260.10 of this rule, that are identified as follows:

(i) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical means;

(ii) Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale; or

(iii) Used oil-fired space heaters provided the burner meets the requirements of § 279.23.

(3) Hazardous waste incinerators subject to regulation under Subsection O of Sections 264

or 265 of this Rule.

Subsection C – Standards for Used Oil Generators

§ 279.20 Applicability

(a) General. Except as provided in paragraphs (a)(1) through (a)(4) below, this Subsection applies to all used oil generators. A used oil generator is any person, by site, whose act or process produces used oil or whose act causes used oil to become subject to these rules.

(1) Household “do-it-yourselfer” used oil generators. Household “do-it-yourselfer” used oil generators are not subject to regulation under this part.

(2) Vessels. Vessels at sea or at port are not subject to this Section. For purpose of this Section, used oil produced on vessels from normal shipboard operations is considered to be generated at the time it is transported ashore. The owner or operator of the vessel are co-generators of the used oil and are both responsible for managing the waste in compliance with this Section once the used oil is transported ashore. The co-generators may decide among themselves which party will fulfill the requirements of this Section.

(3) Diesel fuel. Mixtures of used oil and diesel fuel mixed by the generator of the used oil for use in the generator’s own vehicle are not subject to this Section once the diesel fuel and the used oil have been mixed. Prior to mixing, the used oil is subject to the requirements of this Section.

(4) Farmers. Farmers who generate an average of 25 gallons per month or less of used oil from vehicles or machinery used on the farm in a calendar year are not subject to the requirements of this part.

(b) Other applicable provisions. Used oil generators who conduct the following activities are subject to the requirements of other applicable provisions of this part as indicated in paragraphs (b)(1) through (5) of this Section.:

(1) Generators who transport used oil, except under the self-transport provisions of § 279.24(a) and (b), must also comply with Subsection E of this Section.

(2) (i) Except as provided in paragraph (b)(2)(ii) of this section, generators who process or re-refine used oil must also comply with subsection F of this Section.

(ii) Generators who perform the following activities are not processors provided that the used oil is generated on-site and is not being sent off-site to a burner of on- or off-specification used oil fuel.

(A) Filtering, cleaning, or otherwise reconditioning used oil before returning it for reuse by the generator;

(B) Separating used oil from wastewater generated on-site to make the wastewater acceptable for discharge or reuse pursuant to section 402 or section 307(b) of the Clean Water Act or other applicable Federal or state rules and regulations governing the management or discharge of wastewaters;

(C) Using oil mist collectors to remove small droplets of used oil from in-plant air to make plant air suitable for continued recirculation;

(D) Draining or otherwise removing used oil from materials containing or otherwise contaminated with used oil in order to remove excessive oil to the extent possible pursuant to § 279.10(c); or

(E) Filtering, separating or otherwise reconditioning used oil before burning it in a space heater pursuant to § 279.23.

(3) Generators who burn off-specification used oil for energy recovery, except under the on-site space heater provisions of § 279.23, must also comply with Subsection G of this Section.

(4) Generators who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in § 279.11 must also comply with Subsection H of this Section.

(5) Generators who dispose of used oil, including the use of used oil as a dust suppressant, must also comply with Subsection I of this Section.

§ 279.21 Hazardous waste mixing

(a) Mixtures of used oil and hazardous waste must be managed in accordance with § 279.10(b).

(b) The rebuttable presumption for used oil of § 279.10(b)(1)(ii) applies to used oil managed by generators. Under the rebuttable assumption for used oil, used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste and thus must be managed as hazardous waste and not as used oil unless the presumption is successfully rebutted. However, the rebuttable presumption does not apply to certain metalworking oils and fluids and certain used oils removed from refrigeration units.

§ 279.22 Used oil storage

Used oil generators are subject to all applicable federal Spill Prevention, Control, and Countermeasures (40 CFR Part 112) in addition to the requirements of this Subsection. Used oil generators are also subject to the Underground Storage Tank (40 CFR Part 280; APC&EC Rule No. 12) standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subsection.

(a) Storage units. Used oil generators shall not store used oil in units other than tanks, containers, or units subject to regulation under Sections 264 and 265 of this rule.

(b) Condition of units. Containers and aboveground tanks used to store used oil at generator facilities must be:

(1) In good condition (no severe rusting, apparent structural defects, or deterioration); and

(2) Not leaking (no visible leaks).

(c) Labels.

(1) Containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at generator facilities must be clearly marked with the words "Used Oil."

(d) Response to releases. Upon detection of a release of used oil to the environment that is not subject to the requirements of APC&EC Rule No. 12 or 40 CFR Part 280, subpart F and which has occurred after the effective date of the recycled used oil management program in effect in the State in which the release is located, a generator must perform the following cleanup steps:

(1) Stop the release;

- (2) Contain the released used oil;
- (3) Clean up and manage properly the released used oil and other materials; and
- (4) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

§ 279.23 On-site burning in space heaters

Generators may burn used oil in used oil-fired space heaters provided that:

- (a) The heater burns only used oil that the owner or operator generates, or used oil received from household do-it-yourself used oil generators;
- (b) The heater is designed to have a maximum capacity of not more than 0.5 million BTU per hour; and
- (c) The combustion gases from the heater are vented to the ambient air.

§ 279.24 Off-site shipments

Except as provided in paragraphs (a) through (c) of this section, generators must insure that their used oil is transported only by transporters who have obtained EPA Identification numbers.

(a) Self-transportation of small amounts to approved collection centers. Generators may transport, without an EPA identification number, used oil that is generated at the generator's site and used oil collected from household do-it-yourselfers to a used oil collection point provided that:

- (1) The generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator;
- (2) The generator transports no more than 55 gallons of used oil at any one time; and
- (3) The generator transports the used oil to a used oil collection center that is registered, licensed, permitted, or recognized by a state, county, or local government to manage used oil.

(b) Self-transportation of small amounts to aggregation points owned by the generator. Generators may transport, without an EPA identification number, used oil that is generated at the generator's site to an aggregation point provided that:

- (1) The generator transports the used oil in a vehicle owned by the generator or owned by an employee of the generator;
- (2) The generator transports no more than 55 gallons of used oil at any one time; and
- (3) The generator transports the used oil to an aggregation point that is owned and/or operated by the same generator.

(c) Tolling arrangements. Used oil generators may arrange for used oil to be transported by a transporter without an EPA identification number if the used oil is reclaimed under a contractual agreement pursuant to which reclaimed oil is returned by the processor/re-refiner to the generator for use as a lubricant, cutting oil, or coolant. The contract (known as a "tolling agreement") must indicate:

- (1) The type of used oil and the frequency of shipments;
- (2) That the vehicle used to transport the used oil to the processing/re-refining facility and to deliver recycled used oil back to the generator is owned and operated by the used oil processor/re-refiner; and
- (3) That reclaimed oil will be returned to the generator.

Subsection D – Standards for Used Oil Collection Centers and Aggregation Points

§ 279.30 Do-it-yourselfer used oil collection centers

(a) Applicability. This section applies to owners or operators of all do-it-yourselfer (DIY) used oil collection centers. A DIY used oil collection center is any site or facility that accepts or aggregates and stores used oil collected from household do-it-yourselfers.

(b) DIY used oil collection center requirements. Owners or operators of all DIY used oil collection centers must comply with the generator standards in Subsection C of this Section.

§ 279.31 Used oil collection centers

(a) Applicability. This section applies to owners and operators of used oil collection centers. A used oil collection center is any site or any facility that accepts or aggregates and stores used oil collected from used oil generators regulated under Subsection C of this Section who bring used oil to the collection center in shipment of no more than 55 gallons under the provisions of § 279.24(a). Used oil collection centers may also accept used oil from household do-it-yourselfers.

(b) Used oil collection center requirements. Owners or operators of all used oil collection centers must:

- (1) Comply with the generator standards in Subsection C of this Section; and
- (2) Be registered, licensed, permitted, or recognized by a state, county or municipal government to manage used oil¹.

§ 279.32 Used oil aggregation points owned by the generator

(a) Applicability. This section applies to owners or operators of all used oil aggregation points. A used oil aggregation point is any site that accepts, aggregates, and/or stores used oil collected only from other used oil generation sites owned or operated by the owner or operator of the aggregation point, from which used oil is transported to the aggregation point in shipments of no more than 55 gallons under the provisions of § 279.24(b). Used oil aggregation points may also accept used oil from household do-it-yourselfers.

1. For the purpose of complying with this section, a used oil collection center is considered to be “registered, licensed, permitted, or recognized” if (1) the center has an EPA identification number issued by the Division, and (2) the center has registered itself or made any necessary coordination with its local regional solid waste management district.

(b) Used oil aggregation point requirements. Owners or operators of all used oil aggregation points must comply with the generator standards in Subsection C of this Section.

Subsection E – Standards for Used Oil Transporter and Transfer Facilities

§ 279.40 Applicability

(a) General. Except as provided in paragraphs (a)(1) through (a)(4) below, this Subsection applies to all used oil transporters. Used oil transporters are persons who transport used oil, persons who collect used oil from more than one generator and transport the collected oil, and owners and operators of used oil transfer facilities.

(1) This Subsection does not apply to on-site transportation.

(2) This Subsection does not apply to generators who transport shipments of used oil totaling 55 gallons or less from the generator to a used oil collection center as specified in § 279.24(a).

(3) This Subsection does not apply to generators who transport shipments of used oil totaling 55 gallons or less from the generator to a used oil aggregation point owned or operated by the same generator as specified in § 279.24(b).

(4) This Subsection does not apply to transportation of used oil from household do-it-yourselfers to a regulated used oil generator, collection center, aggregation point, processor/re-refiner, or burner subject to the requirements of this Section. Except as provided in paragraphs (a)(1) through (a)(3) above, this Subsection, however, *does* apply to transportation of collected household do-it-yourselfer used oil from regulated used oil generators, collection centers, aggregation points, or other facilities where household do-it-yourselfer used oil is collected.

(b) Imports and Exports. Transporters who import used oil from abroad or export used oil outside of the United States are subject to the requirements of this Subsection from the time the used oil enters and until the time it exits the United States.

(c) Trucks used to transport hazardous waste. Unless trucks and/or tankers previously used to transport hazardous waste are emptied as described in § 261.7 of this rule (“RCRA empty”) prior to transporting used oil, the used oil is considered to have been mixed with the hazardous waste and must be managed as hazardous waste unless, under the provisions of § 279.10(b), the hazardous waste/used oil mixture is determined not to be hazardous waste.

(d) Other applicable provisions. Used oil transporters who conduct the following activities are also subject to other applicable provisions of this Section as indicated in paragraphs (d)(1) through (d)(5) of this section:

(1) Transporters who generate used oil must also comply with Subsection C of this Section;

(2) Transporters who process or re-refine used oil, except as provided in § 279.41, must also comply with Subsection F of this Section;

(3) Transporters who burn off-specification used oil for energy recovery must also comply with Subsection G of this Section;

(4) Transporters who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specification set forth at § 279.11 must also comply with Subsection H of this Section;

(5) Transporters who dispose of used oil, including the uses of used oil as a dust suppressant, must also comply with Subsection I of this Section.

§ 279.41 Restrictions on transporters who are not also processors or re-refiners

(a) Used oil transporters may consolidate or aggregate loads of used oil for purpose of transportation. However, except as provided in paragraph (b) of this section, used oil transporters may not process used oil unless they also comply with the requirements for processors and re-refiners in Subsection F of this Section.

(b) Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (e.g., settling and water separation), but that are not designed to produce (or

make more amenable for production of) used oil derived products unless they also comply with the requirements for processors and re-refiners in Subsection F of this Section.

(c) Transporters of used oil that is removed from oil bearing electrical transformers and turbines and filtered by the transporter or at a transfer facility prior to being returned to its original use are not subject to the processor/re-refiner requirements in subsection F of this Section.

§ 279.42 Notification

(a) Identification numbers. Used oil transporters who have not previously complied with the notification requirements of RCRA section 3010 must comply with these requirements and obtain an EPA identification number. *Used oil transporters that have previously notified the Division of hazardous waste and other used oil management activities and obtained a U.S. EPA Identification Number must renotify to identify their used oil transporter activities.*

(b) Mechanics of notification. A used oil transporter who has not received an EPA identification number may obtain one by notifying the Director of their used oil activity by submitting a completed EPA Form 8700-12(AR-11-91R) (to obtain EPA Form 8700-12(AR-11-91R) call (501) 570-2872 or 570-2876).

§ 279.43 Used oil transportation

(a) Deliveries. A used oil transporter must deliver all used oil received to:

(1) Another used oil transporter, provided that the transporter has obtained an EPA identification number;

(2) A used oil processing or re-refining facility which has obtained an EPA identification number;

(3) An off-specification used oil burner facility which has obtained an EPA identification number;

(4) An on-specification used oil burner facility.

(b) DOT Requirements. Used oil transporters must comply with all applicable packaging, labeling, and placarding requirements of the U.S. Department of Transportation (DOT) under 49 CFR Parts 171-180. Persons transporting used oil that meets the definition of a hazardous material in 49 CFR 171.8 must comply with all applicable regulations in 49 CFR Parts 171-180.

(c) Used oil discharges.

(1) In the event of a discharge of used oil during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area).

(2) If a discharge of used oil occurs during transportation and an official (State or local government, or a Federal agency) acting within the scope of official responsibilities determines that immediate removal of the used oil is necessary to protect human health and the environment, that official may authorize the removal of the used oil by transporters who do not have EPA identification numbers.

(3) An air, rail, highway, or water transporter who has discharged used oil must:

(i) Give immediate notice to the Arkansas State Police and to the principal office or designated contact for the transporter.

(ii) Give notice, if required by 49 CFR 171.15, to the National Response Center (800-

424-8802 or 202-426-2675);

(iii) Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590; and

(iv) Submit a copy of the written report required by 49 CFR 171.16 and 263.30(c)(2) to APC&EC simultaneously with its submission to the federal Department of Transportation.

(4) A water transporter who has discharged used oil must give the same notice as required by 33 CFR 153.203 for oil and hazardous substances.

(5) A transporter must clean up any used oil spill or discharge that occurs during transportation or take such action as may be required or approved by Federal, State, or local officials so that the used oil discharge no longer presents a hazard to human health or the environment.

§ 279.44 Rebuttable presumption for used oil

(a) To insure that used oil is not a hazardous waste under the rebuttable presumption of § 279.10(b)(1)(ii), the used oil transporter must determine whether the total halogen content of used oil being transported or stored at a transfer facility is above or below 1,000 ppm.

(b) The transporter must make this determination by:

(1) Testing the used oil; or

(2) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

(c) If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subsection D of Section 261 of this rule. The owner or operator may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Section 261 of this rule).

(1) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in § 279.24(c), to reclaim metalworking oils/fluids. The presumption *does* apply to metalworking oils and fluids if such oils and fluids are recycled in any other manner or disposed.

(2) The rebuttable presumption does not apply to used oils contaminated with chloroflourocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption *does* apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(d) Record retention. Records of analyses conducted or information used to comply with paragraphs (a), (b), and (c) above must be maintained by the transporter for at least three years.

§ 279.45 Used oil storage at transfer facilities

Used oil transporters are subject to all applicable federal Spill Prevention, Control, and Countermeasures (40 CFR Part 112) in addition to the requirements of this Subsection. Used oil transporters and transfer facilities are also subject to the Underground Storage Tank (40 CFR Part 280; APC&EC Rule No. 12) standards for used oil stored in underground tanks whether or not the

used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subsection.

(a) Applicability. This section applies to used oil transfer facilities. Used oil transfer facilities are transportation related facilities including loading docks, parking areas, storage areas, and other areas where shipment of used oil are held for more than 24 hours during the normal course of transportation and not longer than 35 days. Transfer facilities that store used oil for more than 35 days are subject to regulation under Subsection F of this Section.

(b) Storage units. Owners or operators of used oil transfer facilities may not store used oil in units other than tanks, containers, or units subject to regulation under Sections 264 and 265 of this rule.

(c) Condition of units. Containers and aboveground tanks used to store used oil at generator facilities must be:

- (1) In good condition (no severe rusting, apparent structural defects, or deterioration); and
- (2) Not leaking (no visible leaks).

(d) Secondary containment for containers. Containers used to store used oil at transfer facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

(e) Secondary containment for existing aboveground tanks. Existing aboveground tanks used to store used oil at transfer facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls except areas where existing portions of the tank meet the ground; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

(f) Secondary containment for new aboveground tanks. New aboveground tanks used to store used oil at transfer facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

(g) Labels.

(1) Containers and aboveground tanks used to store used oil at transfer facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at transfer facilities must be clearly marked with the words "Used Oil."

(h) Response to releases. Upon detection of a release of used oil to the environment that is not subject to the requirements of APC&EC Rule No. 12 or 40 CFR Part 280, subpart F and which has occurred after the effective date of the recycled used oil management program in effect in the State in which the release is located, the owner/operator of a transfer facility must perform the following cleanup steps:

(1) Stop the release;

(2) Contain the released used oil;

(3) Clean up and manage properly the released used oil and other materials; and

(4) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

§ 279.46 Tracking

(a) Acceptance. Used oil transporters must keep a record of each used oil shipment accepted for transport. Records for each shipment must include:

(1) The name and address of the generator, transporter, or processor/re-refiner who provided the used oil for transport;

(2) The EPA identification number (if applicable) of the generator, transporter, or processor/re-refiner who provided the used oil for transport;

(3) The quantity of used oil accepted;

(4) The date of acceptance; and

(5) (i) Except as provided in paragraph (a)(5)(ii) of this section, the signature, dated upon receipt of the used oil, of a representative of the generator, transporter, or processor/re-refiner who provided the used oil for transport.

(ii) Intermediate rail transporters are not required to sign the record of acceptance.

(b) Deliveries. Used oil transporters must keep a record of each shipment of used oil that is delivered to another used oil transporter, or to a used oil burner, processor/re-refiner, or disposal facility. Records of each delivery must include:

(1) The name and address of the receiving facility or transporter;

(2) The EPA identification number of the receiving facility or transporter;

(3) The quantity of used oil delivered;

(4) The date of delivery; and

(5) (i) Except as provided in paragraph (b)(5)(ii) of this section, the signature, dated upon receipt of the used oil, of a representative of the receiving facility or transporter.

(ii) Intermediate rail transporters are not required to sign the record of delivery.

(c) Exports of used oil. Used oil transporters must maintain the records described in paragraphs (b)(1) through (b)(4) above for each shipment of used oil exported to any foreign country.

(d) Records retention. The records described in paragraphs (a) through (c) above must be maintained for at least three years.

§ 279.47 Management of residues

Transporters who generate residues from the storage or transport of used oil must manage the residues as specified in § 279.10(e).

Subsection F – Standards for Used Oil Processors and Re-refiners

§ 279.50 Applicability

(a) The requirements of this Subsection apply to owners and operators of facilities that process used oil. Processing means chemical or physical operations designed to produce from used oil, or to make used oil more amenable for production of fuel oils, lubricants, or other used-oil derived products. Processing includes, but is not limited to, blending used oil with virgin petroleum products, blending used oils to meet the fuel specification, filtration, simple distillation, chemical or physical separation, and re-refining. The requirements of this Subsection do not apply to

(1) Transporters that conduct incidental processing operations during the normal course of transportation as provided in § 279.41;

(2) Burners that conduct incidental processing operations that occur during the normal course of used oil management prior to burning as provided in § 279.61(b).

(b) Other applicable provisions. Used oil processors/re-refiners who conduct the following activities are also subject to the requirements of other applicable provisions of this part as indicated in paragraphs (b)(1) through (b)(5) below:

(1) Processors/re-refiners who generate used oil must also comply with Subsection C of this Section.

(2) Processors/re-refiners who transport used oil must also comply with Subsection E of this part.

(3) Except as provided in paragraphs (b)(3)(i) and (b)(3)(ii) below, processors/re-refiners who burn off-specification used oil for energy recovery must also comply with Subsection G of this Section. Processors/re-refiners burning used oil for recovery under the following conditions are not subject to Subsection G of this part:

(i) The used oil is burned in an on-site space heater that meets the requirements of § 279.23; or

(ii) The used oil is burned for purposes of processing used oil, which is considered burning incidentally to used oil processing.

(4) Processors/re-refiners who direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in § 279.11 must also comply with Subsection H of this Section; and

(5) Processors/re-refiners who dispose of used oil, including the use of used oil as a dust suppressant, must also comply with Subsection I of this part.

§ 279.51 Notification

(a) Identification numbers. Used oil processors and re-refiners who have not previously complied with the notification requirements of RCRA section 3010 must comply with these

requirements and obtain an EPA identification number. *Used oil processors/re-refiners that have previously notified the Division of hazardous waste and other used oil management activities and obtained a U.S. EPA Identification Number must renotify to identify their used oil processor/re-refiner activities.*

(b) Mechanics of notification. A used oil processor or re-refiner who has not received an EPA identification number may obtain one by notifying the Director of their used oil activity by submitting a completed EPA Form 8700-12(AR-11-91R) (to obtain EPA Form 8700-12(AR-11-91R) call (501) 570-2872 or 570-2876).

§ 279.52 General facility standards

(a) Preparedness and prevention. Owners and operators of used oil processing and re-refining facilities must comply with the following requirements:

(1) Maintenance and operation of facility. Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of used oil to air, soil, or surface water which could threaten human health or the environment.

(2) Required equipment. All facilities must be equipped with the following, unless none of the hazards posed by used oil at the facility could require a particular kind of equipment specified in paragraphs (a)(2)(i) through (iv) below:

(i) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to emergency personnel;

(ii) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(iii) Portable fire extinguishers, fire control equipment (including special extinguishing equipment such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(iv) Water at adequate volume and pressure to supply hose streams, or foam-producing equipment, or automatic sprinklers, or water spray systems.

(3) Testing and maintenance of equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

(4) Access to communications or alarm system.

(i) Whenever used oil is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communications device, either directly or through visual or voice contact with another employee, unless such a device is not required in paragraph (a)(2) of this section.

(ii) If there is ever just one employee on the premise while the facility is operating, that employee must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required in paragraph (a)(2) of this section.

(5) Required aisle space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

(6) Arrangements with local authorities.

(i) The owner or operator must attempt to make the following arrangements, as appropriate for the type of used oil handled at his facility and the potential need for the services of these organizations:

(A) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of used oil handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

(B) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(C) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(D) Arrangements to familiarize local hospitals with the properties of used oil handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(ii) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

(b) Contingency plan and emergency procedures. Owners and operators of used oil processing and re-refining facilities must comply with the following requirements:

(1) Purpose and implementation of contingency plan.

(i) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of used oil to air, soil, or surface water.

(ii) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of used oil which could threaten human health or the environment.

(2) Content of contingency plan.

(i) The contingency plan must describe the actions facility personnel must take to comply with paragraphs (b)(1) and (6) of this section in response to fires, explosions, or any unplanned sudden or non-sudden release of used oil to air, soil, or surface water at the facility.

(ii) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR Part 112, or 40 CFR Part 1510, or some other emergency or contingency plan, he need only amend that plan to incorporate used oil management provisions that are sufficient to comply with the requirements of this section.

(iii) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to

coordinate emergency services, pursuant to paragraph (a)(6) above.

(iv) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator, and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(v) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(vi) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of used oil or fires).

(3) Copies of contingency plan. A copy of the contingency plan and all revisions to the plan must be:

(i) Maintained at the facility; and

(ii) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

(4) Amendment of contingency plan. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(i) Applicable regulations and rules are revised;

(ii) The plan fails in an emergency;

(iii) The facility changes — in its design, construction, operation, maintenance, or other circumstances — in a way that materially increases the potential for fires, explosions, or releases of used oil, or changes the response necessary in an emergency;

(iv) The list of emergency coordinators changes; or

(v) The list of emergency equipment changes.

(5) Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[Guidance: The emergency coordinator's responsibilities are more fully spelled out in paragraph (b)(6) below. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of used oil handled by the facility, and type and complexity of the facility.]

(6) Emergency procedures.

(i) Whenever there is an imminent or actual emergency situation, the emergency

coordinator (or his designee when the emergency coordinator is on call) must immediately:

(A) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(B) Notify appropriate State or local agencies with designated response roles if their help is needed.

(ii) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analyses.

(iii) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(iv) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(A) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(B) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under part 1510 of this title) or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

- (1) Name and telephone number of reporter;
- (2) Name and address of facility;
- (3) Time and type of incident (e.g., release, fire);
- (4) Name and quantity of material(s) involved, to the extent known;
- (5) The extent of injuries, if any; and
- (6) The possible hazards to human health, or the environment, outside the facility.

(v) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other used oil at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released used oil, and removing or isolating containers.

(vi) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(vii) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered used oil, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(viii) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(A) No waste or used oil that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(B) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(C) The owner or operator must notify the Director, and appropriate State and local authorities, that the facility is in compliance with paragraphs (b)(6)(viii) A and B of this section before operations are resumed in the affected area(s) of the facility.

(ix) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Director. The report must include:

(A) Name, address, and telephone number of the owner or operator;

(B) Name, address, and telephone number of the facility;

(C) Date, time, and type of incident (e.g., fire, explosion);

(D) Name and quantity of material(s) involved;

(E) The extent of injuries, if any;

(F) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(G) Estimated quantity and disposition of recovered material that resulted from the incident.

§ 279.53 Rebuttable presumption for used oil

(a) To insure that used oil is not a hazardous waste under the rebuttable presumption of § 279.10(b)(1)(ii), the owner or operator of a used oil processing or re-refining facility must determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

(b) The owner or operator must make this determination by:

(1) Testing the used oil; or

(2) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

(c) If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subsection D of Section 261 of this rule. The owner or operator may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Section 261 of this rule).

(1) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in § 279.24(c), to reclaim metalworking oils/fluids. The presumption *does* apply to metalworking oils and fluids if such oils and fluids are recycled in any other manner or disposed.

(2) The rebuttable presumption does not apply to used oils contaminated with chloroflourocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption *does* apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

§ 279.54 Used oil management

Used oil processors/re-refiners are subject to all applicable federal Spill Prevention, Control, and Countermeasures (40 CFR Part 112) in addition to the requirements of this Subsection. Used oil processors/re-refiners are also subject to the Underground Storage Tank (40 CFR Part 280; APC&EC Rule No. 12) standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subsection.

(a) Management units. Used oil processors/re-refiners may not store used oil in units other than tanks, containers, or units subject to regulation under Sections 264 and 265 of this rule.

(b) Condition of units. Containers and aboveground tanks used to store or process used oil at processing and re-refining facilities must be:

- (1) In good condition (no severe rusting, apparent structural defects, or deterioration); and
- (2) Not leaking (no visible leaks).

(c) Secondary containment for containers. Containers used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

(d) Secondary containment for existing aboveground tanks. Existing aboveground tanks used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls except areas where existing portions of the tank meet the ground; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

(e) Secondary containment for new aboveground tanks. New aboveground tanks used to store or process used oil at processing and re-refining facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from

migrating out of the system to the soil, groundwater, or surface water.

(f) Labels.

(1) Containers and aboveground tanks used to store or process used oil at processing and re-refining facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at processing and re-refining facilities must be clearly marked with the words "Used Oil."

(g) Response to releases. Upon detection of a release of used oil to the environment that is not subject to the requirements of APC&EC Rule No. 12 or 40 CFR Part 280, subpart F and which has occurred after the effective date of the recycled used oil management program in effect in the State in which the release is located, an owner/operator must perform the following cleanup steps:

(1) Stop the release;

(2) Contain the released used oil;

(3) Clean up and manage properly the released used oil and other materials; and

(4) If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

(h) Closure.

(1) Aboveground tanks. Owners and operators who store or process used oil in aboveground tanks must comply with the following requirements:

(i) At closure of a tank system, the owner or operator must remove or decontaminate used oil residues in tanks, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil, and manage them as a hazardous waste, unless the materials are not hazardous waste under this Section.

(ii) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (i) above, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to hazardous waste landfills (§ 265.310 of this rule).

(2) Containers. Owners and operators who store or process used oil in containers must comply with the following requirements:

(i) At closure, containers holding used oils or residues of used oil must be removed from the site;

(ii) The owner or operator must remove or decontaminate used oil residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with used oil, and manage them as hazardous waste, unless the materials are not hazardous wastes under Section 261 of this rule.

§ 279.55 Analysis plan

Owners and operators of used oil processing and re-refining facilities must develop and follow a written analysis plan that will be used to comply with the analysis requirements of § 279.53 and, if applicable, § 279.72. The owner or operator must keep the plan at the facility.

(a) Rebuttable presumption for used oil in § 279.53. At a minimum, the plan must specify the following:

(1) Whether sample analyses or knowledge of the halogen content of the used oil will be used to make this determination.

- (2) If sample analyses are used to make this determination:
 - (i) The sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using either:
 - (A) One of the sampling methods listed in Appendix I to Section 261 of this rule; or
 - (B) A method shown to be equivalent under §§ 260.20 and 260.21 of this rule.
 - (ii) The frequency of sampling to be performed, and whether the analysis will be performed on-site or off-site; and
 - (iii) The methods used to analyze used oil for the parameters specified in § 279.53; and
 - (3) The type of information that will be used to determine the halogen content of the used oil.
- (b) On-specification used oil fuel in § 279.72. At a minimum, the plan must specify the following if § 279.72 is applicable:
- (1) Whether sample analyses or other information will be used to make this determination.
 - (2) If sample analyses are used to make this determination:
 - (i) The sampling method used to obtain representative samples to be analyzed. A representative sample may be obtained using either:
 - (A) One of the sampling methods listed in Appendix I to Section 261 of this rule; or
 - (B) A method shown to be equivalent under §§ 260.20 and 260.21 of this rule.
 - (ii) Whether used oil will be sampled and analyzed prior to or after any processing or re-refining;
 - (iii) The frequency of sampling to be performed, and whether the analysis will be performed on-site or off-site; and
 - (iv) The methods used to analyze used oil for the parameters specified in § 279.72; and
 - (3) The type of information that will be used to make the on-specification used oil fuel determination.

§ 279.56 Tracking

- (a) Acceptance. Used oil processors/re-refiners must keep a record of each used oil shipment accepted for processing or re-refining. These records may take the form of a log, invoice, manifest, bill of lading, or other shipping documents. Records for each shipment must include the following information:
- (1) The name and address of the transporter, or processor/re-refiner who delivered the used oil to the processor/re-refiner;
 - (2) The name and address of the generator or processor/re-refiner from whom the used oil was shipped for processing/re-refining;
 - (3) The EPA identification number of the transporter who delivered the used oil to the processor/re-refiner;
 - (4) The EPA identification number (if applicable) of the generator or processor/re-refiner from whom the used oil was shipped for processing/re-refining;
 - (5) The quantity of used oil accepted;
 - (6) The date of acceptance.
- (b) Delivery. Used oil processors/re-refiners must keep a record of each shipment of used oil that

is shipped to a used oil burner, processor/re-refiner, or disposal facility. These records may take the form of a log, invoice, manifest, bill of lading, or other shipping documents. Records for each shipment must include the following information:

- (1) The name and address of the transporter who delivers the used oil to the burner, processor/re-refiner or disposal facility;
- (2) The name and address of the burner, processor/re-refiner or disposal facility which will receive the used oil;
- (3) The EPA identification number of the transporter who delivers the used oil to the burner, processor/re-refiner or disposal facility;
- (4) The EPA identification number of the burner, processor/re-refiner or disposal facility which will receive the used oil;
- (5) The quantity of used oil shipped; and
- (6) The date of shipment.

(c) Records retention. The records described in paragraphs (a) through (c) above must be maintained for at least three years.

§ 279.57 Operating record and reporting

(a) Operating record.

- (1) The owner or operator must keep a written operating record at the facility.
- (2) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:
 - (i) Records and results of used oil analyses performed as described in the analysis plan under § 279.55; and
 - (ii) Summary reports and details of all incidents that require implementation of the contingency plan as specified in § 279.52(b).

(b) Reporting. A used oil processor/re-refiner must report to the Director, in the form of a letter, on an annual basis (by March 1 of each calendar year), the following information concerning used oil activities during the previous calendar year:

- (1) The EPA identification number, name, and address of the processor/re-refiner;
- (2) The calendar year covered by the report; and
- (3) The quantities of used oil accepted for processing or re-refining and the manner in which the used oil is processed or re-refined, including the specific processes employed.

§ 279.58 Off-site shipments of used oil

Used oil processors and re-refiners who initiate shipments of used oil off-site must ship the used oil using a used oil transporter who has obtained an EPA identification number.

§ 279.59 Management of residues

Owners and operators who generate residues from the storage, processing, or re-refining of used oil must manage the residues as specified in § 279.10(e).

Subsection G – Standards for Used Oil Burners Who Burn Off-specification Used Oil for

Energy Recovery

§ 279.60 Applicability

(a) General. The requirements of this Subsection apply to used oil burners except as specified in paragraphs (a)(1) and (a)(2) below. A used oil burner is a facility where used oil not meeting the specification requirements at § 279.11 is burned for energy recovery in devices identified in § 279.61(a). Facilities burning used oil for energy recovery under the following conditions are not subject to this Subsection:

(1) The used oil is burned by the generator in an on-site space heater under the provisions of § 279.23; or

(2) The used oil is burned by a processor/re-refiner for purposes of processing used oil, which is considered burning incidentally to used oil processing.

(b) Other applicable provisions. Used oil burners who conduct the following activities are also subject to the requirements of other applicable provisions of this part as indicated in paragraphs (b)(1) through (b)(5) below:

(1) Burners who generate used oil must also comply with Subsection C of this Section.

(2) Burners who transport used oil must also comply with Subsection E of this Section.

(3) Except as provided in § 279.61(b), burners who process or re-refine used oil must also comply with Subsection F of this Section;

(4) Burners direct shipments of off-specification used oil from their facility to a used oil burner or first claim that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in § 279.11 must also comply with Subsection H of this Section; and

(5) Burners who dispose of used oil, including the use of used oil as a dust suppressant, must also comply with Subsection I of this Section.

(c) Specification fuel. This Subsection does not apply to persons burning used oil that meets the used oil fuel specification of § 279.11, provided that the burner complies with the requirements of Subsection H of this Section.

§ 279.61 Restrictions on burning

(a) Off-specification used oil fuel may be burned for energy recovery in only the following devices:

(1) Industrial furnaces identified in § 260.10 of this rule;

(2) Boilers, as defined in § 260.10 of this rule, that are identified as follows:

(i) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(ii) Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale; or

(iii) Used oil-fired space heaters provide the burner meets the provisions of § 279.23; or

(3) Hazardous waste incinerators subject to regulation under Subsection O of Sections 264 or 265 of this rule.

(b)(1) With the following exception, used oil burners may not process used oil unless they also comply with the requirements of Subsection F of this Section.

(2) Used oil burners may aggregate off-specification used oil with virgin oil or on-specification used oil for purposes of burning, but may not aggregate for purposes of producing on-specification used oil.

§ 279.62 Notification

(a) Identification numbers. Used oil burners that have not previously notified the Division of their used oil burning activities must notify the Division to identify these activities. *Even if a used oil burner has previously notified the Division or EPA of hazardous waste management activities under section 3010 of RCRA and obtained an identification number, the used oil fuel burner must re-notify to identify used oil burning activities.*

(b) Mechanics of notification. A used oil burner who has not received an EPA identification number may obtain one by notifying the Director of their used oil activity by submitting a completed EPA Form 8700-12.

§ 279.63 Rebuttable presumption for used oil

(a) To insure that used oil managed at a used oil burner facility is not a hazardous waste under the rebuttable presumption of § 279.10(b)(1)(ii), a used oil burner must determine whether the total halogen content of used oil managed at the facility is above or below 1,000 ppm.

(b) The used oil burner must make this determination by:

(1) Testing the used oil; or

(2) Applying knowledge of the halogen content of the used oil in light of the materials or processes used.

(3) If the used oil has been received from a processor/refiner subject to regulation under subsection F of this Section, using information provided by the processor/re-refiner.

(c) If the used oil contains greater than or equal to 1,000 ppm total halogens, it is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subsection D of Section 261 of this rule. The owner or operator may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Section 261 of this rule).

(1) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling arrangement as described in § 279.24(c), to reclaim metalworking oils/fluids. The presumption *does* apply to metalworking oils and fluids if such oils and fluids are recycled in any other manner or disposed.

(2) The rebuttable presumption does not apply to used oils contaminated with chloroflourocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(d) Records retention. Records of analyses conducted or information used to comply with

paragraphs (a), (b), and (c) of this subsection must be maintained by the burner for at least three years.

§ 279.64 Used oil storage

Used oil burners are subject to all applicable federal Spill Prevention, Control, and Countermeasures (40 CFR Part 112) in addition to the requirements of this Subsection. Used oil burners are also subject to the Underground Storage Tank (40 CFR Part 280; APC&EC Rule No. 12) standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste, in addition to the requirements of this Subsection.

(a) Storage units. Used oil burners may not store used oil in units other than tanks, containers, or units subject to regulation under Sections 264 and 265 of this rule.

(b) Condition of units. Containers and aboveground tanks used to store used oil at burner facilities must be:

- (1) In good condition (no severe rusting, apparent structural defects, or deterioration); and
- (2) Not leaking (no visible leaks).

(c) Secondary containment for containers. Containers used to store used oil at burner facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

(d) Secondary containment for existing above ground tanks. Existing aboveground tanks used to store used oil at burner facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls except areas where existing portions of the tank meet the ground; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

(e) Secondary containment for new above ground tanks. New aboveground tanks used to store used oil at burner facilities must be equipped with a secondary containment system.

(1) The secondary containment system must consist of, as a minimum:

- (i) Dikes, berms, or retaining walls; and
- (ii) A floor. The floor must cover the entire area within the dikes, berm, or retaining walls; or
- (iii) An equivalent secondary containment system.

(2) The entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from

migrating out of the system to the soil, groundwater, or surface water.

(f) Labels.

(1) Containers and aboveground tanks used to store used oil at burner facilities must be labeled or marked clearly with the words "Used Oil."

(2) Fill pipes used to transfer used oil into underground storage tanks at burner facilities must be clearly marked with the words "Used Oil."

(g) Response to releases. Upon detection of a release of used oil to the environment not subject to the requirements of APC&EC Rule No. 12 or 40 CFR Part 280, subpart F which has occurred after the effective date of this Section, a burner must perform the following cleanup steps:

(1) Stop the release;

(2) Contain the released used oil;

(3) Clean up and properly manage the released used oil and other materials; and

(4) If necessary to prevent future releases, repair or replace any leaking used oil storage containers or tanks prior to returning them to service.

§ 279.65 Tracking

(a) Acceptance. Used oil burners must keep a record of each used oil shipment accepted for burning. These records may take the form of a log, invoice, manifest, bill of lading, or other shipping documents. Records for each shipment must include the following information:

(1) The name and address of the transporter, or processor/re-refiner who delivered the used oil to the burner;

(2) The name and address of the generator or processor/re-refiner from whom the used oil was shipped for burning;

(3) The EPA identification number of the transporter who delivered the used oil to the burner;

(4) The EPA identification number (if applicable) of the generator or processor/re-refiner from whom the used oil was shipped for burning;

(5) The quantity of used oil accepted;

(6) The date of acceptance.

(b) Records retention. The records described in paragraphs (a) through (c) above must be maintained for at least three years.

§ 279.66 Notices

(a) Certification. Before a burner accepts the first shipment of off-specification used oil fuel from a generator, transporter, or processor/re-refiner, the burner must provide to the generator, transporter, or processor/re-refiner a one-time written and signed notice certifying that:

(1) The burner has notified the Division stating the location and general description of his used oil management activities; and

(2) The burner will burn the off-specification used oil only in an industrial furnace or boiler identified in § 279.61(a).

(b) Certificate retention. The certification required in paragraph (a) above must be maintained for three years from the date the burner last receives shipment of off-specification used oil fuel from a generator, transporter, or processor/re-refiner.

§ 279.67 Management of residues

Burners who generate residues from the storage or burning of used oil must manage the residues as specified in § 279.10(e).

Subsection H – Standards for Used Oil Fuel Marketers

§ 279.70 Applicability

(a) Any person who conducts either of the following activities is subject to the requirements of this Subsection:

(1) Directs a shipment of off-specification used oil from their facility to a used oil burner,
or

(2) First claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications set forth in § 279.11.

(b) The following persons are not marketers subject to this Subsection:

(1) Used oil generators, and transporters who transport used oil received only from generators, unless the generator or transporter directs a shipment of off-specification used oil from their facility to a used oil burner. However, processors or re-refiners who burn some used oil fuel for the purpose of processing are considered to be burning incidentally to processing. Thus, generators and transporters who direct shipments of off-specification used oil to processors or re-refiners who incidentally burn that used oil are not marketers subject to this Subsection.

(2) Persons who direct shipments of on-specification used oil and who are not the first person to first claim the used oil meets the used oil fuel specifications of § 279.11.

(c) Any person subject to the requirements of this Subsection must also comply with one of the following:

(1) Subsection C of this Section - Standards for Used Oil Generators;

(2) Subsection E of this Section - Standards for Used Oil Transporters and Transfer Facilities;

(3) Subsection F of this Section - Standards for Used Oil Processors and Re-refiners;

(4) Subsection G of this Section - Standards for Used Oil Burners who Burn Off-specification Used Oil for Energy Recovery.

§ 279.71 Prohibitions

A used oil fuel marketer may initiate a shipment of off-specification used oil fuel only to a used oil burner who:

(a) Has an EPA identification number; and

(b) Burns the used oil in an industrial furnace or boiler identified in § 279.61(a).

§ 279.72 On-specification used oil fuel

(a) Analysis of used oil fuel. A generator, transporter, processor, re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of §

279.11 by performing analyses or obtaining copies of other information documenting that the used oil meets the specifications.

(b) Records retention. A generator, transporter, processor, re-refiner, or burner who first claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications of § 279.11 must keep copies of analyses of the used oil (or other information used to make the determination) for three years.

§ 279.73 Notification

(a) A used oil fuel marketer subject to the requirements of this subsection who has not previously notified the Division of their used oil fuel marketing activities must notify EPA of their used oil fuel must notify the Division to identify these used oil fuel marketing activities. *Even if a used oil fuel marketer has previously notified the Division or EPA of hazardous waste management activities under section 3010 of RCRA and obtained an identification number, the used oil fuel marketer must renotify the Division to identify used oil fuel marketing activities.*

(b) A used oil marketer who has not received an EPA identification number may obtain one by notifying the Director of their used oil activity by submitting a completed EPA Form 8700-12(AR-11-91R) (to obtain EPA Form 8700-12(AR-11-91R) call (501) 570-2872 or 570-2876).

§ 279.74 Tracking

(a) Any used oil fuel marketer who directs a shipment of off-specification used oil to a burner must keep a record of each shipment of used oil to a used oil burner. These records may take the form of a log, invoice, manifest, bill of lading, or other shipping documents. Records for each shipment must include the following information:

- (1) The name and address of the transporter who delivers the used oil to the burner;
- (2) The name and address of the burner who will receive the used oil;
- (3) The EPA identification number of the transporter who delivers the used oil to the burner;
- (4) The EPA identification number of the burner;
- (5) The quantity of used oil shipped;
- (6) The date of shipment.

(b) On-specification used oil delivery. A generator, transporter, processor, re-refiner, or burner who first claims that used oil that is to be burned for energy recovery meets the used oil fuel specifications of § 279.11 must keep a record of each shipment of used oil to an on-specification used oil burner. These records may take the form of a log, invoice, manifest, bill of lading, or other shipping documents. Records for each shipment must include the following information:

- (1) The name and address of the facility receiving the shipment;
- (2) The quantity of used oil fuel delivered;
- (3) The date of shipment or delivery; and
- (4) A cross-reference to the record of used oil analysis or other information used to make the determination that the oil meets the specification as required under § 279.11.

(c) Records retention. The records described in paragraphs (a) and (b) above must be maintained for at least three years.

§ 279.75 Notices

(a) Certification. Before a used oil generator, transporter, processor, or re-refiner directs the first shipment of off-specification used oil fuel to a burner, he must obtain a one-time written and signed notice from the burner certifying that:

(1) The burner has notified the Division stating the location and general description of his used oil management activities; and

(2) The burner will burn the off-specification used oil only in an industrial furnace or boiler identified in § 279.61(a).

(b) Certificate retention. The certification required in paragraph (a) above must be maintained for three years from the date the last shipment of off-specification used oil is shipped to the burner.

Subsection I – Standards for Use as a Dust Suppressant and Disposal of Used Oil

§ 279.80 Applicability

The requirements of this Subsection apply to all used oils that are not or cannot be recycled and are therefore being disposed.

§ 279.81 Disposal

(a) Disposal of hazardous used oils. Used oils that are identified as a hazardous waste and/or cannot be recycled in accordance with this Section must be managed in accordance with the hazardous waste management requirements of Sections 260 through 270 of this rule.

(b) Disposal of nonhazardous used oils. Used oils that are not hazardous wastes and cannot be recycled under this Section must be disposed in accordance with the requirements of APC&EC Rule No. 22 (Solid Waste Management) and 40 CFR Parts 257 and 258.

§ 279.82 Use as a dust suppressant

(a) Except as provided below, the use of used oil as a dust suppressant is prohibited.

(b) Persons desiring to use used oil for dust suppression must first petition the EPA Administrator to allow the use of the used oil (that is not mixed with any hazardous waste and does not exhibit any characteristic of a hazardous waste) as a dust suppressant. A copy of this petition must be provided to the Director.

(c) Upon approval of the dust suppressant petition by the EPA Administrator, the petitioner must apply, using a Special Waste Disposal Request, to the Director for approval of use of specified lots of used oil as a dust suppressant. The petitioner must demonstrate:

(1) The specific lots of used oil proposed for use as a dust suppressant are not mixed with any hazardous waste and do not exhibit any characteristic of a hazardous waste as defined at Section 261, Subsection C of this rule; and

(2) The used oil will be applied as a dust suppressant only in areas and in a manner which will preclude the used oil or runoff containing components of the used oil from entering any waters of the State (as defined at A.C.A. § 8-4-102(8)).

Section 18. [Reserved]

Section 19

EFFECT OF FEDERAL REGULATIONS

(a) Any rules adopted by the Commission shall not be less stringent than the regulations promulgated or revised by the United States Environmental Protection Agency pursuant to the Federal Resource Conservation and Recovery Act of 1976, as amended.

(b) Where the Division issues variances pursuant to A.C.A. § 8-7-211, such variances shall not provide terms less stringent than those set by federal regulations adopted or incorporated by reference in this Rule nor less stringent than those for which analogous provisions have been adopted herein.

(c) Nothing in this Section shall prohibit the Commission from imposing any rule or regulation, nor the Division from imposing any standard, procedure or permit condition which is more stringent than federal regulations, when such rule, standard, procedure or permit condition is required as a part of this Rule or the Act or when the Division finds such stringency is necessary to protect the public health or the environment.

CHAPTER 3

RULES PROMULGATED UNDER ACT 1098 OF 1979

Section 20

AUTHORITY

The rules under this Chapter are promulgated pursuant to the Arkansas Resource Reclamation Act of 1979 (Act 1098 of 1979; A.C.A. 8-7-301 *et seq.*)

Section 21

DEFINITIONS

In addition to the definition set forth in § 260.10, all of which apply to this Chapter, the following terms when used in this Chapter shall mean:

(a) “**Interstate Agreement or Compacts**” means any agreement or agreements between the State of Arkansas and another state or states or the federal government, which is entered into with the approval of the Governor in order to carry out the purposes of the Arkansas Resource Reclamation Act (Act 1098 of 1979, as amended).

(b) “**Memorandum of Agreement**” means the agreement between the U.S. Environmental Protection Agency, as the authorized agent of the federal government, and the Division of Environmental Quality, as the authorized agent of the Governor, for DEQ to operate a state hazardous waste program pursuant to the federal Resource Conservation and Recovery Act in

Arkansas in lieu of the federal government and in accordance with state laws and rules which are equivalent to the federal program.

Section 22

STATE/EPA MEMORANDUM OF AGREEMENT

(a) The Memorandum of Agreement (MOA) effectuates the purposes set forth in Act 1098 of 1979, as amended for interstate agreements or compacts.

(b) Upon execution of the MOA all purposes of Act 1098 of 1979, as amended will be fulfilled with respect to the transportation and disposal of hazardous waste and no other agreements or compacts with respect thereto shall be entered into during the life of the MOA.

CHAPTER 4

[Reserved]

Sections 24-27. [Reserved]

CHAPTER 5

OTHER PROVISIONS

Section 28

Penalty Policy and Administrative Procedures

The provisions of Arkansas Pollution Control and Ecology Commission Rule No. 7, "Civil Penalties", and Rule No. 8, "Administrative Procedures" apply to this Rule.

Section 29

Severability

If any provision of this Rule or the application thereof is held invalid, such invalidity shall not effect other provisions of this Rule which can be given effect without the invalid provision or application and to this end the provisions of this Rule are declared to be severable.

Section 30

Effective Dates

These rules and any amendments or revision thereof are effective 10 days after filing the rules or any amendment or revision thereof with the Secretary of State, except as specifically provided below:

(a) The effective date for the listing of spent potliner from Primary Aluminum Reduction (EPA Waste Code K088) shall be July 1, 1990.

(b) The effective date for the Used Oil Management Standards at Section 279 shall be July 1, 1994.

(c) The effective date for the Organic Air Emissions Standards for Tanks, Surface Impoundments, and Containers at §§ 264 and 265, Subsections CC shall be December 6, 1996.

(1) The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

(2) Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

(3) Chemical Abstracts Service registry number. Where “Total” is entered, all species in the ground water that contain this element are included.

(4) CAS index names are those used in the 9th Cumulative Index.

(5) Suggested methods refer to analytical procedure numbers used in the EPA publication, SW-846, “Test Methods for Evaluating Solid Waste”, Third Edition. Analytical details can be found in SW-846 and in documentation on file at the Agency. The packed column gas chromatography methods 8010, 8020, 8030, 8040, 8060, 8080, 8090, 8110, 8120, 8140, 8150, 8240, and 8250 were promulgated methods through Update IIB of SW-846 and, **as of Update III, the Agency has replaced these methods with “capillary column GC methods”, as the suggested methods.**

(6) Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

(7) Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

(8) This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.

(9) This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.