

RESPONSE TO COMMENTS

Entergy-Arkansas, Inc.
Independence
Permit No.: 449-AOP-R0
CSN: 32-0042

On April 5, 1997, the Director of the Arkansas Department of Pollution Control and Ecology gave notice of a draft permitting decision for the above referenced facility. During the comment period, the facility submitted written comments, data, views, or arguments on the draft permitting decision. The Department's response to these issues follows.

Comment 1

All references to Arkansas Power & Light Company or AP&L should be changed to Entergy-Arkansas, Inc.

Response

The references to Arkansas Power & Light Company and AP&L will be changed to Entergy-Arkansas, Inc.

Comment 2

On page 3, second paragraph, first sentence. Please insert the word "currently" after the word "operates". Please add the sentence " In the future we expect that the plant will operate as more of a peaking unit" after the first sentence.

Response

The word "currently" will be added. The sentence will also be added, however, if the facility changes from a base load unit to a peaking unit this may constitute a change in the method of operation. This change in the method of operation was not addressed in the permit application. A modification to the permit must be made if the facility plans to change from base load units to peaking units.

Comment 3

The description for SN-06 in the Emission Summary Table should be changed to "Handling and Conveying Emissions" to be consistent throughout the document.

Response

The description for SN-06 in the Emission Summary Table will be changed to "Handling/Conveying Emissions".

Comment 4

Please insert the word "turbine" in the description for SN-11 in the Emission Summary Table. Also, add the acronym "UST" to the descriptions for SN-12 and SN-13. This will assist in distinguishing these points from SN-14 and SN-15.

Response

The word "turbine" will be added to the description for SN-11. Also, the acronym "UST" will be added to the descriptions for SN-12 and SN-13.

Comment 5

We have determined that the emissions rates are incorrect for the Cooling Towers SN-16 and SN-17. Specific Condition 51 should be changed to 4.6 lbs/hr and 20 tpy for SN-16 and SN-17. The correct value for Total Dissolved Solids and for circulating water flow are 3000 ppm and 350,000 gpm, respectively. Application of these values to the AP-42 emission factor formula gives $21,000 \text{ kgal/hr} \times 3000 \text{ ppm} \times 0.073 \text{ lb/kgal/E6} = 4.599 \text{ lb/hr} \times 8760 \text{ hr/yr} = 20.148 \text{ tpy}$.

Response

The emission rates for SN-16 and SN-17 will be replaced with the correct values.

Comment 6

The word "modification" in the first sentence on page 11 should be stricken from the discussions. There were no modifications at the facility that resulted in increases in CO emissions. As the BACT analysis stated, the limit first applied was inappropriate for the unit.

Response

The sentence has been changed to the following:

"The results from stack testing showed a significant increase in CO emissions".

Comment 7

In the second paragraph on page 14, the last sentence should read "A continuous opacity monitoring system records opacity emissions".

Response

The sentence will be modified as requested.

Comment 8

On page 14, the third paragraph, fourth sentence should read "A continuous emissions monitoring system records sulfur dioxide emissions". The following sentence should read "Continuous emissions monitoring systems record CO₂ emissions and NO_x emissions under Acid Rain requirements (40 CFR 75)".

Response

The sentences will be modified as requested.

Comment 9

The words "and shut down" should be added following the term "start up" in the second sentence of the fourth paragraph on page 14.

Response

The term "shut down" will be added the referenced sentence.

Comment 10

We request that the PSD restrictions be added to the language in items a through d on page 15. We feel that it will be less confusing to a reader of the permit. Such a reader may incorrectly conclude that the limits identified in items a through d are the only limitations for these units.

Response

The PSD restrictions have been added following the NSPS requirements. A header has also been added stating that the sources are subject to PSD requirements.

Comment 11

We request that item j be deleted from the permit. We feel that these requirements apply to a new facility and that they are inappropriate to a facility that has already gone through its initial start-up.

Response

Items a through j were included as part of a short summary of 40 CFR 60, Subpart D. However, the Department will delete item j from this description.

Comment 12

We request clarification of items 3 and 4 on page 16. Concerning the discussion about the arithmetic average of three contiguous one hour periods for SO₂ and stack gas flow, we can find no standard that this calculation satisfies. Should not the requirement be to convert these parameters to pounds per million BTU?

Response

Pursuant to 40 CFR 60.45(g)(2), excess emissions for affected facilities are defined as any three hour period during which the average emission (arithmetic average of three contiguous one-hour periods) of sulfur dioxide or nitrogen oxides as measured by a continuous monitoring system exceed the applicable standard. The purpose of Specific Conditions 3 and 4 is to demonstrate continuous compliance with the hourly limits of units 1 and 2. The gas flow is needed to convert the CEMS reading to lb/hr.

The Department has discussed this matter with the Compliance Section. It was determined that all utilities are currently submitting the required information in lbs/MMBtu and that future reports could be submitted in the current format. Therefore, the units will be changed to lb/MMBtu.

Comment 13

We request that the last two sentences of item 6 on page 17 be deleted from the permit. These systems already meet the requirements of 40 CFR 60 and 40 CFR 75. For instance, please refer to item 8 on this page 17. Further, the standard has been revised and as attached would apply a more restrictive limit to excess emissions. It is our understanding that the application of more restrictive limits is not in keeping with the spirit and intent of Title V permits.. We have had numerous discussions with the Department in the past as well as during the Title V permit application process about the more stringent monitor uptime and excess emissions compliance limitations. It was because of these earlier discussions that we felt it unnecessary to formally comment during the public comment period. While our current permit allows 10 percent monitor downtime and allows 10 percent excess emissions including start-ups and shut-downs, the revised CEMS standard requires 95 percent compliance with both parameters inclusive of start-ups and shut-downs. It is our understanding that this purpose of the Title V program is to assemble all existing applicable permit requirements into an operating permit.

Consequently, if the Department feels that it must restate the CEMS operating requirements that are already stated in 40 CFR Part 75, then these requirements should be extracted from the non-enforceable CEMS standard and placed in the body of the permit. We further request that the existing requirements as stated above be retained or allow 95 percent compliance with these parameters exclusive of start-up and shut-down.

We believe that Appendix B, the CEMS standard, must be thought of as administrative guidance. Since the standard has not been subject to the rule making process, it can not be an enforceable document. Please indicate the Department's intended use and purpose for the CEMS standard.

A standard that imposes substantive limitations must be promulgated pursuant to notice and comment. Further, decisions regarding the particular application of CEMS operating parameters must be made on a plant specific basis with a supporting rationale for the decision. This should be especially true when the provisions will be more stringent or difficult for the facility to attain.

As the company embarks on operating in a new competitive environment, we may be forced to operate these units in a manner that would require frequent start-up and shut-down. Experience has shown that most of our excess emissions occur during start-up/shut-down periods.

Response

When CEMS were first required by EPA, they were used as indicators of compliance only. As the reliability of the monitors increased, it was determined that CEMS could be used for Compliance/Enforcement. To use CEMS for Compliance/Enforcement, EPA developed Appendix F listed in 40 CFR Part 60. Appendix F is QA/QC for CEMS to assure the data collected is accurate and reliable. The Department also adopted similar guidelines that could be inserted in each permit requiring CEMS. Originally, the Department required that a facility with CEMS have the monitors operate 95 percent of each quarter and that all permitted facilities should obtain 90 percent compliance with permit limits. However, in a Memorandum of Agreement with EPA dated March 20, 1992 (Timely and Appropriate Enforcement Response to Significant Air Pollution Violators), EPA required 95 percent monitor up time and 95 percent compliance with the permit limits. After the Department received this memorandum we changed our CEMS requirements to conform with EPA.

Under Title 40, Part 60, a plant is allowed to exclude start-up and shut-down, but must report 100 percent of all other violations. Under the agreement with EPA (Timely and Appropriate Enforcement Response to Significant Air Pollution Violators), we are required to give only 5 percent of each quarter as violation time. The Department's CEMS standard allows for 5 percent of each quarter for excess emissions. It does not exclude start-up and shut-down periods. The Department believes that 5 percent should be adequate to cover normal operations.

The Department has reviewed previous quarterly reports submitted by the Independence facility. Records show that the facility has only violated the CEMS standard a few times indicating that the facility can operate within the requirements of the CEMS standard. Entergy has stated that it may operate the facility as a peaking unit rather than a base load unit. This type of operation would require frequent start-ups and shut-downs. The Department believes that operating the facility in this manner would be a change in the method of operation requiring a modification to the permit. This issue was not addressed in the Title V permit application submitted on March 29, 1997.

Comment 14

We request that items 12, 13, 14, 15, 17, 18, 19, 20, and 21 on page 19 be deleted from the permit. These items have a) already been stated, b) are not necessary because the emissions are permitted for the maximum rate and the emissions are continuously monitored by a CEMS.

Response

Items 12 and 13 will be deleted since No. 2 fuel oil usage was based on the maximum rate. Items 14 and 15 will remain in the permit. These conditions are used to show compliance with the sulfur content in the fuel oil. Item 17 will remain in the permit. However, Entergy has stated that the CEMS log records the change from one operating scenario to another. This log will satisfy the recordkeeping requirement. Items 18, 19, 20, and 21 will remain in the permit. However, these conditions have been placed after the NSPS requirements. See Response to Comment 10.

Comment 15

Items 23 and 25 on page 20 should be clarified to indicate that the 12 month period is a calendar year.

Response

The 12 month period is not a calendar year but rather a rolling twelve month period. During any twelve month period, the emissions for SO₂ and NO_x shall not exceed the indicated limits. The facility is required to maintain monthly records to demonstrate compliance with those limits.

Comment 16

The quarterly reports referred to on page 21 in item 27 are formally called "electronic data reports or EDR's.

Response

The quarterly reports will be identified as EDRs.

Comment 17

We expect complications from the requirement specified in item 33 on page 22 as well as from item 39 on page 25. It is our understanding that Reference Method 9 has certain requirements in order for the readings to be valid. Reference Method 9 is designed such that readings must be taken by looking at the emission point or certain distance from the stack. Does the Department know of an alternative method that could be used to accomplish this requirement?

We suggest the submission and use of a maintenance plan in place of VE readings for SN-03 and SN-06, similar to SN-04 and deleting items 33 and 39.

Response

The submitted maintenance plan for SN-03 will be incorporated into the permit. The condition requiring visual opacity readings and recordkeeping will be deleted. No maintenance plan was submitted for SN-06 (Handling/Conveying Emissions). Although emissions from these operations do not exhaust out of a stack, it is possible to obtain VE readings. Readings should be taken at all transfer points of the handling/conveying operation using EPA Reference Method 9.

Comment 18

We request that the detail of the submitted maintenance plan indicated on page 23 in item 36 be deleted from the permit. The maintenance plan may change and we would like to be able to implement those changes without the need for a permit modification.

Response

The specifics of the maintenance plan were included in the permit after comments were received from EPA Region 6. EPA suggested that if a maintenance plan was to be used in place of periodic monitoring that the maintenance plan should be detailed in the permit. The condition lists the steps that should be taken to assure that the equipment is operating correctly. It also states that the maintenance plan is not limited to these specific steps. For clarification purposes, a sentence has been added stating that changes to the maintenance plan would not cause the need for a permit modification.

Comment 19

The gallons value in item 42 on page 26 should be corrected to 129,572,000 to be consistent with the value from page 19. As we have stated earlier, we believe that the requirements in items 41, 42, and 43 are inappropriate. Please see comments 15 and 18.

Response

The gallons value in item 42 represents the annual throughput of No. 2 fuel oil of the storage tank (SN-07). This value does not correspond to the value on page 19 which represents the amount of No. 2 fuel oil which the facility is allowed to use during any consecutive twelve month period. The emission rates for the storage tank were based on the annual throughput of 112,000,000 gallons.

Specific Condition 41 which states an opacity limit for the storage tank will be deleted. The opacity should be zero or not applicable when storing No. 2 fuel oil. Specific Condition 42 and 43 will remain in the permit. These conditions are used to demonstrate compliance with the lb/hr and tpy emission rates for the storage tank.

Comment 20

It is our understanding that Regulation 19 currently regulates VOC emissions from sources in Pulaski County. If this is correct then please delete the requirements in items 44-50 on pages 27 and 28. If this is not correct, please provide a reference for the vapor pressure requirements specified on the pages. As stated earlier, we do not believe that the requirement to measure opacity from these sources is appropriate.

Response

The understanding that VOC emissions are only regulated in Pulaski County is incorrect. Volatile Organic Compounds are considered as criteria pollutants and are regulated under state and federal regulations. Entergy listed these sources as insignificant in the permit application. To be considered insignificant, these sources had to meet certain criteria listed in Appendix A of Regulation 19. The sources met the criteria for size and emissions but did not meet the criteria for vapor pressure. Therefore, these sources could not be considered insignificant and must be permitted. The sources and associated conditions will remain in the permit.

Comment 21

The annual throughput limits in items 48 and 49 on page 28 should be clarified.

Response

The limit of 15,750 gallons is a combined annual throughput for SN-10, SN-11, and SN-12. The limit of 5200 gallons is the annual throughput limit for SN-15 and the limit of 10,400 gallons is the combined annual throughput for SN-13 and SN-14. Recordkeeping is required to verify compliance with these throughput limits.

Comment 22

We request the deletion of items 52-56 on pages 29 and 30 of the permit. These emissions should fall within the category of insignificant sources and should be allowable under the permit and need not be specifically identified.

Response

The sources are not insignificant since the emissions are greater than 10 tpy of any regulated pollutant. Specifically, emissions are 20.1 tpy of PM/PM₁₀. Items 52-56 are used to demonstrate compliance with the emission limits for the cooling towers and cannot be deleted from the permit.

Comment 23

As stated in comment 10, the items 1-3 on page 40 of the permit would appear to apply to new facilities. We request deletion of these items from the permit.

Response

Plantwide Conditions 1 thru 4 are part of each Title V permit. The permittee must comply with these conditions if these conditions are applicable to the facility. If these conditions do not apply to your facility, you need not comply with them. These conditions will remain as found in the draft permit.

Comment 24

We request that item 7 on page 42 be deleted or changed to indicate that all reporting will continue to be done on a quarterly basis consistent with the requirement on page 17, item 7.

Response

A sentence will be added to state that all reporting will continue to be done on a quarterly basis

Comment 25

Item 8 on page 42 should be corrected to state that the annual throughput of coal at the facility shall not exceed 9.2 million tons.

Response

The correction will be made.

Comment 26

Item 16 on page 47 of the permit, it is understood that the CEMS system notes changes from oil firing to coal firing and vice versa and that the CEMS logs satisfies this requirement.

Response

It is the Department's understanding that the CEMS system records the change from one operating scenario to the other and this record shall satisfy this requirement.

Comment 27

Please correct Unit 2 allowance allocations to 18257 in the table on page 51.

Response

The correction will be made to the table to indicate the correct value.

OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation #26:

Permit #: 449-AOP-R0

IS ISSUED TO:

Entergy-Arkansas, Inc.-Independence
555 Point Ferry Road
Newark, AR 72562
Independence County
CSN:32-0042

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

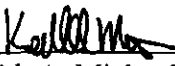
March 10, 1998

and

March 9, 2003

AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



Keith A. Michaels

3/10/98
Date

Entergy-Arkansas, Inc.-Independence
CSN: 32-0042
Permit #:449-AOP-R0

SECTION I: FACILITY INFORMATION

PERMITTEE:	Entergy-Arkansas, Inc.- Independence
CSN:	32-0042
PERMIT NUMBER:	449-AOP-R0
FACILITY ADDRESS:	555 Point Ferry Road Newark, Arkansas 72562
COUNTY:	Independence
CONTACT POSITION:	Environmental Support
TELEPHONE NUMBER:	(501) 377-4032
REVIEWING ENGINEER:	Maria Watts
UTM North-South (X):	3811
UTM East-West (Y):	579

Entergy-Arkansas, Inc.-Independence
CSN: 32-0042
Permit #:449-AOP-R0

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
Total Allowable Emissions		PM ₁₀	337.6	1472.2	
		SO ₂	16186.3	70878.8	
		VOC	72.3	309.8	
		CO	6479.5	28348.2	
		NO _x	12317.6	53820.4	
		PM/PM ₁₀	1179.1	5159.0	
		Lead	2.2	9.6	
SN-01 (C1)	Unit 1 Boiler- Coal Fired	PM ₁₀	65.0	284.7	14
		SO ₂	8091.0	35438.6	
		VOC	35.0	153.3	
		CO	3232.0	14156.2	
		NO _x	6090.0	26674.2	
		PM/PM ₁₀	283.0	1239.6	
		Lead	1.1	4.8	
SN-01 (C1)	Unit 1 Boiler-No. 2 Fuel Oil	PM ₁₀	0.1	0.2	14
		SO ₂	524.1	2295.5	
		VOC	1.5	6.4	
		CO	3232.0	14156.2	
		NO _x	175.2	767.3	
		PM/PM ₁₀	0.1	0.3	
		Lead	0.1	0.3	
SN-02 (C2)	Unit 2 Boiler- Coal Fired	PM ₁₀	65.0	284.7	14
		SO ₂	8091.0	35438.6	
		VOC	35.0	153.3	
		CO	3232.0	14156.2	
		NO _x	6090.0	26674.2	
		PM/PM ₁₀	283.0	1239.6	
		Lead	1.1	4.8	

SECTION II: INTRODUCTION

Entergy-Arkansas, Inc. operates the Independence Steam Electric Station located in Newark, Arkansas. The Independence Plant is a two-unit electric generating station which generates electric energy for sale. Electricity is produced by using sub-bituminous coal as the primary fuel and No. 2 fuel oil as the start-up fuel in both boilers to produce steam, which is used to drive turbines which turn the electric generators.

Independence Steam Electric Station operates currently as a base-load facility. In the future, the facility expects to operate as more of a peaking unit. The facility has two identical coal-fired units (Units 1 and 2) with a total capacity of approximately 1690 megawatts (MW). Low sulfur sub-bituminous coal is delivered by rail from northeastern Wyoming. Each rail car is equipped with rotary couplings which enable the rotary car dumper to grasp one car at a time and empty it without removing the car from the train. The rotary car dumper is capable of emptying approximately 30 cars per hour. Transfer conveyors move the coal to a transfer tower. From here the coal can be conveyed to three different areas including the plant to be pulverized and burned, the stacker/reclaimer, or dead storage. The stacker reclaimer has the capability of either stacking coal out or reclaiming the coal in the ready storage piles. The dead storage piles are used for long term storage of coal. Each coal pile is also managed by the use of heavy vehicles including front end loaders and bull dozers.

Coal is burned in the steam generators which feed turbine generators to produce electricity. Exhaust gases from both units are expelled through two 1000 foot stacks within a common outer chimney shell. Waste heat dissipation is through two hyperbolic natural draft cooling towers which obtain makeup water from the White River and from the capture of site drainage. Other major plant components include facilities for storage and handling of coal and disposal of ash; a switch-yard; electrostatic precipitators; water treatment; surge and other ponds; and intake and discharge structures.

Emissions from the plant include sulfur dioxide, nitrogen oxides, and particulates. The emission levels for each of these are governed by Federal and State emission and ambient air regulations. In-stack monitoring is designed to meet the requirements of Acid Rain (40 CFR 75) and New Source Performance Standards. Oxides of nitrogen are subject to NSPS and Acid Rain requirements; particulates are subject to NSPS requirements; and sulfur dioxide emissions are subject to PSD, NSPS and Acid Rain requirements. A summary of facility wide emissions is provided in the following table. Specific emission unit information is located by the indicated cross reference pages.

Entergy-Arkansas, Inc.-Independence
CSN: 32-0042
Permit #:449-AOP-R0

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
SN-02 (C2)	Unit 2 Boiler- No. 2 Fuel Oil	PM ₁₀	0.1	0.2	14
		SO ₂	524.1	2295.5	
		VOC	1.5	6.4	
		CO	3232.0	14156.2	
		NO _x	175.2	767.3	
		PM/PM ₁₀	0.1	0.3	
		Lead	0.1	0.3	
SN-03 (M1)	Rail Car Rotary Dumper	PM ₁₀	0.1	0.1	22
		PM/PM ₁₀	16.0	70.1	
SN-04 (M30-31)	Fly Ash Silos(2) with Fabric Filters	PM ₁₀	0.1	0.1	24
		PM/PM ₁₀	1.0	4.4	
SN-05 (C3)	Auxiliary Boiler	PM ₁₀	0.6	2.6	14
		SO ₂	0.2	0.5	
		VOC	0.3	1.2	
		CO	7.7	33.8	
		NO _x	106.0	464.0	
		PM/PM ₁₀	1.0	4.2	
SN-06	Handling/Conveying Emissions	PM ₁₀	161.3	706.5	25
		PM/PM ₁₀	549.5	2406.9	
SN-07 (T1)	Fuel Oil Storage Tank	VOC	0.3	1.4	27

Entergy-Arkansas, Inc.-Independence

CSN: 32-0042

Permit #:449-AOP-R0

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
SN-08 (C4)	Emergency Diesel Generator	PM ₁₀	0.4	0.1	32
		SO ₂	3.4	0.9	
		VOC	0.7	0.2	
		CO	5.5	1.4	
		NO _x	21.1	5.3	
		PM/PM ₁₀	0.5	0.2	
SN-09 (C5)	Emergency Fire Pump Generator	PM ₁₀	0.8	0.2	32
		SO ₂	0.7	0.2	
		VOC	0.9	0.3	
		CO	2.3	0.6	
		NO _x	10.5	2.7	
		PM/PM ₁₀	0.8	0.2	
SN-10 (T2)	Unit 1 Turbine Lube Oil Storage Tank	VOC	---	<0.1	28
SN-11 (T13)	Unit 2 Turbine Lube Oil Storage Tank	VOC	---	<0.1	28
SN-12 (T27)	UST Diesel Tank	VOC	---	<0.1	28
SN-13 (T29)	UST Automotive Unleaded Gasoline Tank	VOC	---	<0.1	28

Entergy-Arkansas, Inc.-Independence
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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page(s)
			lb/hr	tpy	
SN-14 (T30)	Unleaded Gasoline Tank	VOC	---	<0.1	28
SN-15 (T31)	Unleaded Gasoline Tank	VOC	---	<0.1	28
SN-16 (X35)	Cooling Tower #1	PM ₁₀	4.6	20.0	30
		PM/PM ₁₀	4.6	20.0	
SN-17 (X36)	Cooling Tower #2	PM ₁₀	4.6	20.0	30
		PM/PM ₁₀	4.6	20.0	

Entergy-Arkansas, Inc.-Independence
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SECTION III: PERMIT HISTORY

449-A was issued to Arkansas Power & Light Company on November 1, 1977. 449-A permitted the installation of the coal-fired steam electric station near Newark on the White River. The permit established the limit of the SO₂ emission rate at 0.93 lbs/MMBtu heat input. The maximum emission rate for TSP was limited to 611 lb/hr based on the use of coal with a heat content of 8700 Btu/lb and a maximum sulfur and ash content at 0.45 percent and 8 percent, respectively.

449-AR-1 was issued to Arkansas Power & Light Company- Independence Steam Electric Station on April 9, 1991. In June, 1990, AP&L announced its intent to sell a percentage of power from Unit 2 to Entergy Power Incorporated (EPI). EPI is a subsidiary of Entergy Corporation. It was determined that a revised permit for the Independence facility was needed. The revised permit incorporated the existing limits for particulate matter, sulfur dioxide, oxides of nitrogen and opacity. It also identified emission sources that were not addressed in the original permit application (i.e. rotary car dumper, fly ash silos) and estimated pollutant emissions from fuel oil storage facilities and air toxic emissions.

0449-AOP-R0 is the first operating air permit issued to Entergy-Arkansas, Inc.-Independence Steam Electric Station under Regulation 26. No physical changes in the method of operation at the facility occurred prompting this permit issuance.

Entergy-Arkansas, Inc. proposes to increase the CO limit for the Independence facility from 300 lb/hr (50 ppm) to 3232 lb/hr or 300 ppm hourly (100 ppm 24- hour average) to reflect the optimum range for unit operating efficiency. Modeling analysis at a 500 ppm emission rate was conducted and showed no significant impact to the *NAAQS*. In addition, a Best Achievable Control Technology review was conducted since the facility is currently subject to PSD.

Entergy-Arkansas, Inc. is electing to take on a new NO_x emission limit of 0.45 lb/MMBtu annual average at Independence Units 1 and 2. This early election is allowed under 40 CFR 76 of the Acid Rain Regulations. This limit will apply beginning calendar year 1997. However, Entergy-Arkansas, Inc. shall not submit an application for an alternative emissions limitation demonstration period until the earlier of January 1, 2008, or early election is terminated pursuant to 40 CFR 76.8. The NSPS limit of 0.7 lb/MMBtu and the state-imposed lb/hr limit will still apply to these units.

Entergy-Arkansas, Inc.-Independence
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SECTION IV: BACT ANALYSIS AND AMBIENT AIR IMPACT ANALYSIS

BACT Analysis

When modifications at a facility that is a major stationary source result in an increase in potential emissions above the PSD significance level, a Best Available Control Technology (BACT) analysis is required. BACT is performed on a case-by-case basis taking economic, environmental, and energy impacts into consideration. Technical feasibility is also examined as a part of the BACT analysis. The appropriate level of emission control must be determined for each new or modified source of a PSD pollutant. Control equipment capable of this level of control must then be installed. Also, an ambient air impact analysis must be conducted in order to determine whether or not the allowable emissions from the proposed source, in conjunction with all other applicable emission increases or reductions, would cause or contribute to a violation of the applicable PSD increments and the National Ambient Air Quality Standards (NAAQS.)

A BACT analysis was performed for CO emissions from Unit 1 boiler and Unit 2 boiler. The analysis is described below.

BACT Analysis for CO

Sources that have been modified and require a PSD/BACT review for CO are Unit 1 boiler and Unit 2 boiler. The study reviewed controls for CO based on the RACT/BACT/LAER Clearinghouse and recent developments in control equipment. Technologies to control CO emissions from both boilers were evaluated according to the top down BACT approach.

The top down BACT approach requires the following steps:

- * Identification of all control technologies
- * Elimination of technically infeasible options
- * Ranking of remaining control technologies by control effectiveness
- * Evaluation of most effective control technology
- * Selection of BACT

Carbon monoxide is a product resulting from the incomplete combustion of carbonaceous fuels due to low excess oxygen and poor fuel/air mixing. The two methods for controlling CO in boilers are good combustion practices and use of a CO catalyst.

Good combustion practices is the standard technology for reducing carbon monoxide emissions. It is generally defined as adequate fuel/air mixing and maintaining oxygen levels such that sub-stoichiometric ratios are not reached. However, there is a limit to CO control by using excess air

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because it can promote production of nitrogen oxides (NO_x).

The other method of controlling carbon monoxide emissions is through the use of a CO catalyst. The catalyst oxidizes CO to carbon dioxide. The process requires no reagent. In order to achieve the required operating temperatures of 650 to 750 degrees Fahrenheit, the catalyst must be located between the economizer outlet and the air heater inlet.

Application of the CO catalyst technology to a coal fired source was deemed technically infeasible. Due to its position in the ductwork, the catalyst is exposed to a substantial amount of fly ash in the flue gas stream. Other disadvantages include pluggage and erosion from abrasive combustion products and poisoning of the catalyst from acid gases and trace metals in the flue gas.

Good combustion practices was determined to be technically feasible for this facility. This application for controlling CO has no adverse environmental impacts other than the potential for increased NO_x emissions. The concentration of CO in the flue gas corresponding to good combustion practices is not expected to result in a significant effect on existing ambient air quality. Also, there are no significant economic impacts related to this application.

Arkansas Power & Light Company-Independence currently has a 300 lb/hr limit for CO emissions for each Unit boiler. Good combustion practices designed to meet a CO emission limit of 100 ppm on a 24-hour average basis is determined to be BACT for CO for this facility.

Ambient Air Impact Analysis

A preliminary analysis is used to determine if the predicted ambient impact caused by the increase in emissions will exceed the ambient air quality impact significance level. If the preliminary analysis indicates an ambient impact below the ambient air quality impact significance level, no further analysis is required. If the preliminary analysis indicates an ambient impact above the ambient air quality impact significance level, the preliminary analysis is used to determine the area of impact and a full impact analysis is required.

The results from stack testing showed a significant increase in CO emissions. Thus, the facility is required to conduct an ambient air impact analysis for this pollutant. The facility has not made any changes or expansions that would constitute a modification as defined in Section 19.2(m) of Regulation 19. As indicated in the table below, the ambient impact is below the ambient air quality impact significance level and no further analysis is required. The permittee modeled the increases using two Cartesian receptor grids. One is a coarse grid consisting of receptors spaced

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every 500 meters extending 10 kilometers from the emission stacks. The second receptor grid is a fine grid that extends 1 km from the property line with receptors spaced 100 meters apart.

Ambient Air Impact Analysis Results		
Pollutant	Concentration ($\mu\text{g}/\text{m}^3$)	
	Significance Level	Modeling Results
CO	2000 (1-hour average)	306.0
	500 (8-hour average)	67.0

The reviewer modeled the proposed increases using a Cartesian coordinate system to verify the results. The reviewer's analysis also indicated an ambient air impact analysis below the modeling significance level.

Ambient Air Quality Monitoring Data

The PSD regulations require that up to a year of pre-construction ambient air monitoring data be collected for each pollutant subject to PSD review. If it is demonstrated that the impact of these emissions are less than the de minimis monitoring exemption levels, an exemption from the PSD pre-construction monitoring can be granted by the Department. A review is presented below.

- CO - The monitoring de minimis level (8-hour average) for this pollutant is $575 \mu\text{g}/\text{m}^3$. The maximum predicted impact is $306.0 \mu\text{g}/\text{m}^3$. Since this is below the de minimis level, no pre-construction monitoring data will be required for this pollutant.

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SECTION V: EMISSION UNIT INFORMATION

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SN-01, SN-02 and SN-05 Boilers

Source Description

SN-01 and SN-02 are 8700 million BTU per hour coal fired boilers. The boilers use sub-bituminous coal as their primary fuel and No. 2 fuel oil as the start-up fuel. The boilers are permitted to operate under alternating scenarios. Scenario I represents combustion from coal and Scenario II represents No. 2 fuel oil combustion. The boilers supply steam which feed turbine generators to produce electricity. Both units are subject to NSPS Subpart D, which regulates emissions of particulate matter, sulfur dioxide, and nitrogen oxides from fossil-fuel-fired steam generators.

Particulate emissions from these two units are controlled with electrostatic precipitators. NSPS emissions standards for particulate matter are 0.1 lb/MMBtu and a maximum opacity of 20 percent. However, a more stringent PSD emission limitation of 0.04 lb/MMBtu is in effect for this facility. A continuous opacity monitor records opacity emissions.

Sulfur dioxide emissions from SN-01 and SN-02 are limited by the use of low-sulfur coal. The NSPS emission standard for sulfur dioxide is 1.2 lb/MMBtu. However, a more stringent PSD emission limitation of 0.93 lb/MMBtu is in effect for this facility. A continuous emissions monitoring system measures sulfur dioxide emissions. Continuous emissions monitoring systems measure CO₂ emissions and NO_x emissions under Acid Rain requirements (40 CFR 75).

SN-05 is a 183 million BTU per hour boiler. This auxiliary boiler combusts No. 2 fuel in order to provide steam for unit start-up and shut-down activities. There are no control devices associated with this source. Emissions from this boiler are regulated under the State Implementation Plan (SIP), Regulation 19.

Specific Conditions

1. Pursuant to §19.5 and 19.9 of the regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates, when operating under Scenario I: coal firing, set forth in the following table.

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Source No.	Pollutant	Emission Rate (lb/hr)
SN-01	PM ₁₀	65.0
	SO ₂	8091.0
	VOC	35.0
	CO	3232.0
	NO _x	6090.0
	PM/PM ₁₀	283.0
	lead	1.1
SN-02	PM ₁₀	65.0
	SO ₂	8091.0
	VOC	35.0
	CO	3232.0
	NO _x	6090.0
	PM/PM ₁₀	283.0
	lead	1.1

2. SN-01 and SN-02 are subject to 40 CFR, Part 60, Subpart D, Standards of Performance for fossil fuel-fired steam generators due to a heat input capacity of greater than 250 MMBtu/hr. A copy of Subpart D is provided in Appendix A. Applicable provisions of Subpart D, include, but are not limited to:
 - a. Pursuant to 40 CFR 60.42(a)(1), PM emissions shall not exceed 0.1 lb/MMBtu.
 - b. Pursuant to 40 CFR 60.42(a)(2), opacity shall not exceed 20 percent except as provided by 40 CFR 60.8 and 60.11.
 - c. Pursuant to 40 CFR 60.43, SO₂ emissions shall not exceed 1.2 lb/MMBtu.
 - d. Pursuant to 40 CFR 60.44(a)(3), NO_x emissions shall not exceed 0.7 lb/MMBtu.
 - e. Pursuant to 40 CFR 60.45(a), the permittee shall install, calibrate, and maintain Continuous Emissions Monitoring Systems (CEMS) for NO_x, SO₂, CO₂, and opacity.
 - f. Pursuant to 40 CFR 60.45(g)(1), excess opacity emissions are defined as any six minute period during which the average opacity emissions exceed 20%, except for one 6 minute average per hour of up to 27 percent opacity.
 - g. Pursuant to 40 CFR 60.45(g)(2), excess SO₂ emissions are defined as any 3 hour period during which the average emissions (arithmetic average of three contiguous one hour periods) of SO₂ as measured by a CEMS exceed the applicable standard under 60.43.

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- h. Pursuant to 40 CFR 60.45(g)(3), excess NO_x emissions are defined as any 3 hour period during which the average emissions (arithmetic average of three contiguous one hour periods) of NO_x as measured by a CEMS exceed the applicable standard under 60.44.
- i. Pursuant to 40 CFR 60.45(g) excess emission and monitoring system performance reports shall be submitted to the ADPC&E for every calendar quarter. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter. Excess emissions are defined in 60.45(g)(1).

Note: These units are also subject to PSD restrictions. See the following three conditions.

- 3. Pursuant to §19.9 and 40 CFR 52.21, the emissions from SN-01 and SN-02 shall not exceed the PSD emission limit of 0.04 lb/MMBtu for particulate matter and 0.93 lb/MMBtu for sulfur dioxide when burning coal or No. 2 fuel oil.
- 4. Pursuant to 40 CFR Part 60, Subpart D, emissions of sulfur dioxide from SN-01 and SN-02 shall not exceed the NSPS emissions standard of 1.2 lb/MMBtu when burning coal or No. 2 fuel oil. However, a more stringent PSD limit of 0.93 lb/MMBtu is in effect for these units. (See Specific Condition No. 2)
- 5. Pursuant to 40 CFR Part 60, Subpart D, emissions of particulate matter from SN-01 and SN-02 shall not exceed the NSPS emissions standard of 0.1 lb/MMBtu when burning coal or No. 2 fuel oil. However, a more stringent PSD limit of 0.04 lb/MMBtu is in effect for these units. (See Specific Condition No. 2)
- 6. Pursuant to §19.7 and 19.9 of Regulation 19, the permittee shall maintain records which demonstrate compliance with the hourly SO₂ emission limit set in Specific Condition 1. These records may be used by the Department for enforcement purposes. Compliance shall be determined as the average emissions (arithmetic average of three contiguous one hour periods) of SO₂ as measured by a CEMS and converted to pounds per MMBtu. These records shall be kept on site and shall be provided to Department personnel upon request. Records shall be submitted in accordance with General Provision 7 and Plantwide Condition 7.
- 7. Pursuant to §19.7 and 19.9 of Regulation 19, the permittee shall maintain records which demonstrate compliance with the NO_x emission limit set in Specific Condition 1. These records may be used by the Department for enforcement purposes. Compliance shall be determined as the average emissions (arithmetic average of three contiguous one hour period) of NO_x as measured by a CEMS and converted to pounds per MMBtu. These

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records shall be kept on site and shall be provided to Department personnel upon request. Records shall be submitted in accordance with General Provision 7 and Plantwide Condition 7.

8. Pursuant to §18.5 of Regulation 18 and 40 CFR 60, Subpart D, the permittee shall not cause to be discharged to the atmosphere from the boilers any emissions which exhibit an opacity greater than 20 percent when firing coal or No. 2 fuel oil. The opacity shall not exceed 20 percent (6 minute average), except for one 6-minute period per hour not to exceed 27 percent. Pursuant to General Condition 7, Entergy shall notify the Department whenever excessive emissions occur, including instances due to start-up activities using fuel oil or turning off the electrostatic precipitators during shut-down operations.
9. Pursuant to §19.7 (c), 19.9, 40 CFR 75.10 and 40 CFR 60, Subpart D, the permittee shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for measuring opacity of emissions and all SO₂, NO_x and CO₂ emissions discharged to the atmosphere from SN-01 and SN-02 and record the output of the system. This CEMS shall comply with the Air Division's "Continuous Emission Monitoring System Standards." A copy is provided in Appendix B. The permittee shall report all excess emissions as defined by 40 CFR 60.45(g)(1),(2) and (3) and in accordance with 40 CFR 60.7(c).

Appendix B, Section II, paragraph F, shall not apply to Units 1 and 2 as it relates to excess emissions for opacity. For purposes of the opacity emissions limitations only, the permittee shall not have the 5 percent excess emissions historically allowed for the excess emissions caused by startups, shutdowns, and malfunctions. Excess opacity emissions caused by startups, shutdowns, and malfunctions for Units 1 and 2 are addressed elsewhere in this permit. However, the permittee must report all excess emissions including those excess emissions caused by startups, shutdowns, and malfunctions.

The number of startup and shutdown occurrences that occur at this facility have historically ranged from 12 to 24 per year. In general, startup begins when the ID and FD fans are started with the intent to fire the unit. Normally, startup ends when the unit achieves stable operation and the following operating parameters are met: (1) the electrostatic precipitator is placed in service, and (2) startup oil is no longer necessary to support combustion. Duct sweeps are usually considered a part of the startup operation. For these units, shutdown normally begins when the unit load or output is reduced with the intent of removing the unit from service, or when the unit trips as the result of a sudden or unforeseen failure or malfunction. Shutdown usually ends when the unit commences startup.

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10. Pursuant to 40 CFR 60.7, the permittee shall submit quarterly excess emissions and monitoring systems performance reports to the Department. The reports shall include the magnitude of excess emissions, date and time of commencement and completion of each period of excess emissions, process operating time during reporting period, date and time of each period during which the CEMS are inoperative, identification of each period of excess emissions that occurs during startup, shutdown, and malfunctions of the units, nature and cause of any malfunction (if known), and the corrective action or preventative measure adopted. Reports shall be sent to the following address:

Arkansas Department of Pollution Control and Ecology
Air Division
Attn.. Compliance Inspector Supervisor
P.O. Box 8913
Little Rock, AR 72219-8913

11. Pursuant to 40 CFR 75.10, the permittee shall ensure that all continuous emission and opacity monitoring systems are in operation and monitoring all unit emissions or opacity at all times, except during periods of calibration, quality assurance, preventative maintenance or repair.
12. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates, when operating under Scenario II: fuel oil firing, set forth in the following table.

Source No.	Pollutant	Emission Rate (lb/hr)
SN-01	PM ₁₀	0.1
	SO ₂	524.1
	VOC	1.5
	CO	3232.0
	NO _x	175.2
	PM/PM ₁₀	0.1
	lead	0.1

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Source No.	Pollutant	Emission Rate (lb/hr)
SN-02	PM ₁₀	0.1
	SO ₂	524.1
	VOC	1.5
	CO	3232.0
	NO _x	175.2
	PM/PM ₁₀	0.1
	lead	0.1

13. Pursuant to §19.7 of Regulation 19, the permittee shall maintain records which demonstrate compliance with the hourly SO₂ emission limit set in Specific Condition 12 and may be used by the Department for enforcement purposes. Compliance shall be determined as the average emissions (arithmetic average of three contiguous one hour periods) of SO₂ as measured by a CEMS and converted to pounds per MMBtu. These records shall be kept on site and shall be provided to Department personnel upon request. Records shall be submitted in accordance with General Provision 7 and Plantwide Condition 7.
14. Pursuant to §19.7 of Regulation 19, the permittee shall maintain records which demonstrate compliance with the NO_x emission limit set in Specific Condition 12 and may be used by the Department for enforcement purposes. Compliance shall be determined as the average emissions (arithmetic average of three contiguous one hour periods) of NO_x as measured by a CEMS and converted to pounds per MMBtu. These records shall be kept on site and shall be provided to Department personnel upon request. Records shall be submitted in accordance with General Provision 7 and Plantwide Condition 7.
15. Pursuant to §19.7 of Regulation 19, 40 CFR part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall sample and analyze each shipment of fuel oil to determine the sulfur content. The sulfur content shall not exceed 0.5 weight percent. Fuel oil sampling and analysis may be performed by the owner or operator of an affected unit, an outside laboratory, or a fuel supplier, provided that sampling is performed according to ASTM D4057-88. Each shipment shall be defined as a 5000 or 10000 barrel lot delivered to a pipeline and pumped to a loading rack.

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16. Pursuant to §19.7 of Regulation 19, the permittee shall maintain records of fuel oil sampling. These records shall be kept on site and made available to Department personnel upon request. These records may be used by the Department for enforcement purposes.
17. Pursuant to §19.5 (a), No. 2 fuel oil is the only fuel permitted for use in the Auxiliary boiler, SN-05. Pursuant to §19.5 and §19.9, the permittee shall not exceed the emission rates set forth in the following table.

Source No.	Pollutant	Emission Rate (lb/hr)	Emission Rate (tpy)
SN-05	PM ₁₀	0.6	2.6
	SO ₂	0.2	0.5
	VOC	0.3	1.2
	CO	7.7	33.8
	NO _x	106.0	464.0
	PM/PM ₁₀	1.0	4.2

18. Pursuant to General Condition 16, the permittee shall contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the scenario under which the facility or source is operating.
19. Pursuant to 40 CFR Part 60, Subpart D, NO_x emissions shall not exceed the NSPS emissions standard of 0.7 lb/MMBtu when burning coal or No. 2 fuel oil (3-hour rolling average).
20. Pursuant to 40 CFR Part 60.46, the permittee shall determine compliance with the particulate matter, SO₂, and NO_x emission standards in §§60.42, 60.43, and 60.44 by the test procedures and methods outlined in this section.
- Method 5 shall be used to determine particulate matter concentration.
 - Method 6 shall be used to determine the SO₂ concentration.
 - Method 7 shall be used to determine the NO_x concentration.
 - EPA approved alternative test methods may be used as specified in this section.

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21. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and 40 CFR 70.6, the permittee shall not exceed 70877.6 tons/year of SO₂ emissions for any consecutive twelve month period from SN-01 and SN-02 when firing coal or No. 2 fuel oil.
22. Pursuant to §19.7 of Regulation 19, the permittee shall maintain records which demonstrates compliance with the limit set in Specific Condition 21. These records may be used by the Department for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department personnel upon request. An annual total and each individual month's data shall be submitted in accordance with General Provision 7 and Plantwide Condition 7.
23. Pursuant to A.C.A §8-4-203 referenced by A.C.A §8-4-304 and 40 CFR 70.6 the permittee shall not exceed 53807.1 tons/year of NO_x emissions for any consecutive twelve month period from SN-01 and SN-02 when firing coal or No. 2 fuel oil.
24. Pursuant to §19.7 of Regulation 19, the permittee shall maintain records which demonstrate compliance with the limit set in Specific Condition 23. These records may be used by the Department for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department personnel upon request. An annual total and each individual month's data shall be submitted in accordance with General Provision 7 and Plantwide Condition 7.
25. Pursuant to 40 CFR, Part 75, the permittee shall submit the required electronic data reports (EDRs) to EPA Headquarters.
26. Relative Accuracy tests will be performed in accordance with 40 CFR, Part 75. This relative accuracy test will meet the requirements under 40 CFR, Part 60, Subpart D.
27. Pursuant to 40 CFR, Part 75.10(c), the permittee shall determine and record the heat input to each affected unit for every hour or part of an hour any fuel is combusted following the procedures in Appendix F of 40 CFR Part 75.

SN-03 Rail Car Rotary Dumper

Source Description

The coal for the Independence Steam Electric Station is received by rail. Each rail car is equipped with rotary couplings which enable the rail car rotary dumper to grasp one car at a time and empty it without removing the car from the train. The rail car rotary dumper, SN-03, is capable of emptying approximately 30 cars per hour. A rotoclone and water sprays are utilized to control emissions from this process. Emissions from the rail car rotary dumper are regulated under the State Implementation Plan (SIP), Regulation 19.

Specific Conditions

28. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates at SN-03 set forth in the following table.

Pollutant	lb/hr	tpy
PM ₁₀	0.1	0.1
PM/PM ₁₀	16.0	70.1

29. Pursuant to §18.5 of Regulation 19, the permittee shall not cause to be discharged to the atmosphere any emissions which exhibit an opacity greater than 20 percent. The opacity shall be measured in accordance with EPA Reference Method 9.
30. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall use the water sprays while the dumper is in operation.
31. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall comply with the maintenance plan submitted to the Department for the rotary car dumper (See Appendix C). Compliance with the maintenance plan may demonstrate compliance with the limits set in Specific Condition 29. Requirements include but are not limited to the following:
- Inspect primary and secondary tubes for pluggage and wear
 - Inspect and adjust v-belts
 - Inspect secondary fan impeller for wear

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- d. Inspect all bearings for grease and vibration
- e. Check dust outlet for pluggage
- f. Inspect rotoclone bearings
- g. Inspect fan housing for cracks
- h. Inspect fan blades for dust buildup
- i. Inspect spray nozzles for pluggage
- j. Clean strainers (regulator strainer and basket strainer)
- k. Check motor for vibration
- l. Check bearing temperature

The permittee may use equivalent or alternative maintenance plans for this source without undergoing a modification to this permit if the new maintenance plans have been reviewed and approved by the Department. The permittee is required to submit any new maintenance plan for this source to the Department and may not implement the maintenance plan until the facility receives approval from the Department. The permittee must submit the proposed maintenance plan(s) with a cover letter explaining any changes to the following address:

Arkansas Department of Pollution Control and Ecology
Air Division
ATTN: Air Enforcement Branch
Post Office Box 8913
Little Rock, AR 72219

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SN-04 Fly Ash Silos w/Fabric filters

Source Description

The Independence Plant is equipped with two (2) fly ash silos. Particulate emissions from the silos are controlled by fabric filters (SN-04) with control efficiency of 98 percent. Emissions are regulated under the State Implementation Plan, (SIP), Regulation 19.

Specific Conditions

32. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates at SN-04 specified in the following table.

Pollutant	lb/hr	tpy
PM ₁₀	0.1	0.1
PM/PM ₁₀	1.0	4.4

33. Pursuant to §18.5 of Regulation 18, the permittee shall not cause to be emitted from this source any emission which exhibit an opacity greater than 20 percent. The opacity shall be measured in accordance with EPA Reference Method 9.
34. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall comply with the maintenance plan submitted to the Department for the fly ash silos (See Appendix C). Compliance with the maintenance plan may demonstrate compliance with the limits set in Specific Condition 32. Requirements include but are not limited to the following:
- Check air leaks on pulsation system
 - Check air operated valves
 - Check piping and supports
 - Check air cylinders
 - Check baghouse doors and seals
 - Check bags
 - Check diffuser blower bearings for heat and vibration
 - Check blower case for excessive heat buildup
 - Check inlet filter and change as needed
- The permittee may use equivalent or alternative maintenance plans for this source without undergoing a modification to this permit.

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SN-06 Handling/Conveying Emissions

Source Description

Minor emission sources at the facility include coal handling/conveying operations (not subject to NSPS Subpart Y). Dust emissions from the coal handling operations are controlled with amerclones, roto clones and wet sprays. These control devices do not operate at all times due to maintenance or ambient temperatures below freezing. Emissions are regulated under the State Implementation Plan (SIP), Regulation 19.

Rotoclone Units

- 1 - (M-7) American Air Filter, Size 20, type "W" rated at 9600 CFM, wet type
- 1 - (M-14) American Air Filter, Size 20, type "W" rated at 9600 CFM, wet type
- 1 - (M-2) American Air Filter, Size 24, type "W" rated at 13600 CFM, wet type w/American Air Filter, Size 15, AMERclone
- 1 - (M-5) American Air Filter, Size 24, type "W" rated at 21500 CFM, wet type w/American Air Filter, Size 12, AMERclone
- 1 - (M-25) American Air Filter, Size 27, type "W" rated at 16400 CFM, wet type
- 1 - (M-26) American Air Filter, Size 27, type "W" rated at 16400 CFM, wet type
- 1 - (M-6) American Air Filter, Size 36, type "W" rated at 26800 CFM, wet type w/American Air Filter, Size 27, AMERclone
- 1 - (M-12) American Air Filter, Size 36, type "W" rated at 27500 CFM, wet type w/American Air Filter, Size 27, AMERclone
- 1 - (M-24) American Air Filter, Size 36, type "W" rated at 2600 CFM, wet type w/American Air Filter, Size 27, AMERclone
- 1 - (M-8) American Air Filter, Size 45, type "W" rated at 36200 CFM, wet type w/American Air Filter, Size 36, AMERclone

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Specific Conditions

35. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates at SN-06 specified in the following table.

Pollutant	lb/hr	tpy
PM ₁₀	161.3	706.5
PM/PM ₁₀	549.5	2406.9

36. Pursuant to §18.5 of Regulation 18, the permittee shall not cause to be discharged to the atmosphere from this source any emissions which exhibit an opacity greater than 20 percent. The opacity shall be measured in accordance with EPA Reference Method 9.
37. Pursuant to §19.7 of Regulation 19 and 40 CFR Part 52, Subpart E, the permittee shall conduct weekly observations of the opacity from SN-06 and keep records of these observations. If visible emissions are detected, then the permittee shall conduct a 6-minute opacity reading in accordance with EPA Reference Method 9. The results of these observations shall be kept on site and made available for inspection upon request.

SN-07 Fuel Oil Storage Tank

Source Description

No. 2 Fuel Oil is stored in a storage tank on site. The tank has a capacity of 3,360,000 gallons or 80,000 barrels. The tank is cylindrical with a fixed roof. No. 2 Fuel Oil is stored at a minimum temperature of 64.0 °F and a maximum temperature of 89.9 °F. Emissions from the storage tank are 1.4 tons/year of volatile organic compounds (VOCs). Emissions are regulated under the State Implementation Plan (SIP), Regulation 19.

Specific Conditions

38. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates at SN-07 as specified in the following table.

Pollutant	lb/hr	tpy
VOC	0.3	1.4

39. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall not exceed the annual throughput limit of 112,000,000 gallons of No. 2 fuel oil at SN-07 during any consecutive twelve month period. Compliance with this condition shall represent compliance with this source's applicable requirements.
40. Pursuant to §19.7 and 40 CFR Part 52, Subpart E, the permittee shall maintain records which demonstrate compliance with the limit set forth in Specific Condition 39. These records may be used by the Department for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department personnel upon request.

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Miscellaneous Storage Tanks
(SN-10 thru SN-15)

Source Description

The Independence Steam Electric Station has numerous storage tanks which store various fuel oils, lube oils and other liquids. The tanks vary in size from 500 gallons to 15,000 gallons. Emissions from the tanks are volatile organic compounds (VOCs) which are regulated under the State Implementation Plan (SIP), Regulation 19.

Specific Conditions

41. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates specified in the following table.

Source Number	Pollutant	tpy
SN-10 (T2)	VOC	0.1
SN-11 (T13)		
SN-12 (T27)		
SN-13 (T29)		
SN-14 (T30)		
SN-15 (T31)		

42. Pursuant to §19.5 of Regulation 19, the permittee shall store only liquids having a true vapor pressure equal to or less than 0.05 psia in storage tanks SN-10, SN-11 and SN-12.

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43. Pursuant to §19.5 of Regulation 19, the permittee shall store only liquids having a true vapor pressure equal to or less than 5.2 psia in storage tanks SN-13, SN-14 and SN-15.
44. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall not exceed a combined annual throughput limit of 15,750 gallons of fuel at SN-10, SN-11, and SN-12 during any consecutive twelve month period. Compliance with this condition shall represent compliance with the sources' applicable requirements.
45. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall not exceed an annual throughput limit of 5200 gallons of fuel at SN-15 during any consecutive twelve month period. Compliance with this condition shall represent compliance with the sources' applicable requirements.
46. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall not exceed a combined annual throughput of 10,400 gallons of fuel at SN-13 and SN-14 during any consecutive twelve month period. Compliance with this condition shall represent compliance with the sources' applicable requirements.
47. Pursuant to §19.7 and 40 CFR Part 52, Subpart E, the permittee shall maintain records which demonstrate compliance with the limits set in Specific Conditions 44, 45 and 46. These records may be used by the Department for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department personnel upon request.

SN-16 and SN-17 Cooling Towers

Source Description

The Independence Steam Electric Station operates two (2) cooling towers for waste heat dissipation. The cooling towers obtain makeup water from the White River and from the capture of site drainage. Emissions from the towers are particulate matter which are regulated under the State Implementation Plan, (SIP), Regulation 19.

Specific Conditions

48. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates specified in the following table.

Source Number	Pollutant	lb/hr	tpy
SN-16 (X35)	PM ₁₀	4.6	20.0
	PM/PM ₁₀	4.6	20.0
SN-17 (X36)	PM ₁₀	4.6	20.0
	PM/PM ₁₀	4.6	20.0

49. Pursuant to §18.5 of Regulation 18, the permittee shall not cause to be discharged to the atmosphere from this source any emissions which exhibit an opacity greater than 5 percent. The opacity shall be measured in accordance with EPA Reference Method 9.
50. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall operate the cooling towers within the design specifications listed in Appendix C. Compliance with the design specifications may demonstrate compliance with the limit specified in Specific Condition 49.
51. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the total dissolved solids content shall not exceed 3000 parts per million.

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52. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the circulating water flow for SN-16 and SN-17 shall not exceed 21,000 kgal/hr.
53. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the permittee shall monitor the circulating water flow and total dissolved solids to demonstrate compliance with this source's applicable requirements.

SN-08 and SN-09 Emergency Generators

Source Description

The Independence Steam Electric Station is equipped with an emergency diesel generator, SN-08, and an emergency fire pump generator, SN-09. Emissions from the sources are products of combustion and are regulated under the State Implementation Plan (SIP), Regulation 19.

Specific Conditions

54. Pursuant to §19.5 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), the permittee shall not exceed the emission rates specified in the following table.

Source Number	Pollutant	lb/hr	tpy
SN-08 (C4)	PM ₁₀	0.4	0.1
	SO ₂	3.4	0.9
	VOC	0.7	0.2
	CO	5.5	1.4
	NO _x	21.1	5.3
	PM/PM ₁₀	0.5	0.2
SN-09 (C5)	PM ₁₀	0.8	0.2
	SO ₂	0.7	0.2
	VOC	0.9	0.3
	CO	2.3	0.6
	NO _x	10.5	2.7
	PM/PM ₁₀	0.8	0.2

55. Pursuant to §18.5 of Regulation 18, the permittee shall not cause to be discharged to the atmosphere from this source any emissions which exhibit an opacity greater than 20 percent. The opacity shall be measured in accordance with EPA Reference Method 9.
56. Pursuant to §19.7 of Regulation 19 and 40 CFR Part 52, Subpart E, the permittee shall conduct weekly observations of the opacity from SN-08 and SN-09 and keep records of these observations. If visible emissions are detected, then the permittee shall conduct a 6-

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minute opacity reading in accordance with EPA Reference Method 9. The results of these observations shall be kept on site and made available for inspection upon request.

57. Pursuant to §19.5 of Regulation 19, hours of operation for the emergency generators(SN-08 and SN-09) shall not exceed 500 hours per any consecutive twelve month period.
58. Pursuant to §19.7 of Regulation 19, the permittee shall maintain records which demonstrate compliance with the limit set in Specific Condition 57. These records may be used by the Department for enforcement purposes. These records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department personnel upon request.

SECTION VI: DE MINIMIS LIST

Pursuant to §19.4(c) of Regulation 19 as referenced by §3(e) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), the following sources are below the de minimis emission levels. De minimis emission determinations rely upon the information submitted by the permittee in an application dated March 29, 1996.

- 34 - Storage tanks less than 10,000 gallons storing organic liquids having a true vapor pressure less than or equal to 0.5 psia.
(T3-T12, T14-T26, T28, T32-T33, T35-T36, T47-T48, T59-T60, and X8)
- 1 - Caustic storage tank containing no VOCs. (T37)
- 5 - Storage tanks less than 250 gallons storing organic liquids having a true vapor pressure less than or equal to 3.5 psia.
(T52, T58, T63-T65)
- 4 - Diesel fired space heaters (C7-C10)

Emissions from wastewater sources (W1-W12)
Emissions from fuel dispensing stations (X1-X4, X6 and X7)
Emissions from laboratory equipment/ vents (V38 and V39)

Pursuant to §19.4(c) of Regulation 19 as referenced by §3(e) of Regulation 26, the following emission units, operations, or activities have been determined by the Department to be below the de minimis emission levels. Activities included in this list are allowable under this permit and need not be specifically identified.

- 1. Natural gas-burning equipment with a design rate less than 1 million BTU per hour.
- 2. Combustion emissions from propulsion of mobile sources and emissions from refueling these sources unless regulated by Title II and required to obtain a permit under title V of the federal Clean Air Act, as amended. This does not include emissions from any units, such as temporary compressors or boilers. This does not include emission from loading racks or fueling operations covered under any applicable federal requirements.
- 3. Air conditioning and heating units used for comfort that do not have applicable requirements under Title VI of the Act.

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4. Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/industrial or commercial process.
5. Non-commercial food preparation or food preparation at restaurants, cafeterias, or caterers, etc.
6. Consumer use of office equipment and products, not including commercial printers or businesses primarily involved in photographic reproduction.
7. Janitorial services and consumer use of janitorial products.
8. Internal combustion engines used for landscaping purposes.
9. Laundry activities, except for dry-cleaning and steam boilers.
10. Bathroom/toilet emissions.
11. Emergency (backup) electrical generators at residential locations.
12. Tobacco smoking rooms and areas.
13. Blacksmith forges.
14. Maintenance of grounds or buildings, including: lawn care, weed control, pest control, and water washing activities.
15. Repair, up-keep, maintenance, or construction activities not related to the sources' primary business activity, and not otherwise triggering a permit modification. This may include, but is not limited to such activities as general repairs, cleaning, painting, welding, woodworking, plumbing, re-tarring roofs, installing insulation, paved/paving parking lots, miscellaneous solvent use, application of refractory, or insulation, brazing, soldering, the use of adhesives, grinding, and cutting.¹

¹ Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must get a permit.

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16. Surface-coating equipment during miscellaneous maintenance and construction activities. This activity specifically does not include any facility whose primary business activity is surface-coating or includes surface coating or products.
17. Portable electrical generators that can be "moved by hand" from one location to another.²
18. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning, or machining wood, metal, or plastic.
19. Brazing or soldering equipment related to manufacturing activities that do not result in emission of HAPs.³
20. Air Compressors and pneumatically operated equipment, including hand tools.
21. Batteries and battery charging stations, except at battery manufacturing plants.
22. Storage tanks, vessels, and containers holding or storing liquid substances that do not contain any VOCs or HAPs.⁴
23. Containers of less than or equal to 5 gallons in capacity that do not emit any detectable VOCs or HAPs when closed. This includes filling, blending, or mixing of the contents of such containers by a retailer.
24. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and non-volatile aqueous salt solutions, provided appropriate lids and covers are used and appropriate odor control is achieved.

²"Moved by hand" means that it can be moved by one person without assistance of any motorized or non-motorized vehicle, conveyance, or device.

³Brazing, soldering, and welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals are more appropriate for treatment as insignificant activities based on size or production thresholds. Brazing, soldering, and welding equipment, and cutting torches related directly to plant maintenance and upkeep and repair or maintenance shop activities that emit HAP metals are treated as trivial and listed separately.

⁴Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids are based on size and limits including storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.

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25. Equipment used to mix and package soaps, vegetable oil, grease, animal fat, and non-volatile aqueous salt solution, provided appropriate lids and covers are used and appropriate odor control is achieved.
26. Drop hammers or presses for forging or metalworking.
27. Equipment used exclusively to slaughter animals, but not including other equipment at slaughter-houses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
28. Vents from continuous emission monitors and other analyzers.
29. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
30. Hand-held applicator equipment for hot melt adhesives with no VOCs in the adhesive.
31. Equipment used for surface coating, painting, dipping, or spraying operations, containing less than 0.4 lb/gal VOCs, any hexavalent chromium, or that emit no more than 0.1 tpy of all other HAPs.
32. Lasers used only on metals and other materials which do not emit HAPs in the process.
33. Consumer use of paper trimmers/binders.
34. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boiler used to deliver the steam.
35. Salt baths using non-volatile salts that do not result in emissions of any air pollutant covered by this regulation.
36. Laser trimmers using dust collection to prevent fugitive emissions.
37. Bench-scale laboratory equipment used for physical or chemical analysis.
38. Routine calibration and maintenance of laboratory equipment or other analytical instruments.

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39. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
40. Hydraulic and hydrostatic testing equipment.
41. Environmental chambers not using hazardous air pollutant gases.
42. Shock chambers, humidity chambers and solar simulators.
43. Fugitive emissions related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
44. Process water filtration systems and demineralizers.
45. Demineralized water tanks and demineralizer vents.
46. Boiler water treatment operations, not including cooling towers.
47. Emissions from storage or use of water treatment chemicals, except for hazardous air pollutants or pollutants listed under regulations promulgated pursuant to Section 112(r) of the Act, for use in cooling towers, drinking water systems, and boiler water/feed systems.
48. Oxygen scavenging (de-aeration) of water.
49. Ozone generators.
50. Fire suppression systems.
51. Emergency road flares.
52. Steam vents and safety relief valves.
53. Steam leaks.
54. Steam cleaning operations.
55. Steam and microwave sterilizers.

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56. Site assessment work to characterize waste disposal or remediation sites.
57. Miscellaneous additions or upgrades of instrumentation.
58. Emissions from combustion controllers or combustion shutoff devices.
59. Use of products for the purpose of maintaining motor vehicles operated by the facility, not including air cleaning units for such vehicles (i.e. antifreeze, fuel additives).
60. Stacks or vents to prevent escape of sanitary sewer gases through the plumbing traps.
61. Emissions from equipment lubricating systems (i.e. oil mist), not including storage tanks, unless otherwise exempt.
62. Residential wood heaters, cookstoves, or fireplaces.
63. Barbecue equipment or outdoor fireplaces used in conjunction with any residential or recreation.
64. Log wetting areas and log flumes.
65. Periodic use of pressurized air for cleanup.
66. Solid waste dumpsters.
67. Emissions of wet lime from lime mud tanks, lime mud washers, lime mud piles, lime mud filter and filtrate tanks, and lime mud slurry tanks.
68. Natural gas odoring activities unless the Department determines that a nuisance may occur.
69. Emissions from engine crankcase vents.
70. Storage tanks used for the temporary containment of materials resulting from an emergency reporting of an unanticipated release.
71. Equipment used exclusively to mill or grind coatings in roll grinding rebuilding, and molding compounds where all materials charged are in paste form.

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72. Mixers, blenders, roll mills, or calenders for rubber or plastic for which no materials in powder form are added and in which no organic solvents, diluents, or thinners are used.
73. The storage, handling, and handling equipment for bark and wood residues not subject to fugitive dispersion offsite (this applies to equipment only).
74. Maintenance dredging of pulp and paper mill surface impoundments and ditches containing cellulosic and cellulosic derived biosolids and inorganic materials such as lime, ash, or sand.
75. Tall oil soap storage, skimming, and loading.
76. Water heaters used strictly for domestic (non-process) purposes.
77. Facility roads and parking areas, unless necessary to control offsite fugitive emissions.
78. Agricultural operations, including onsite grain storage.

SECTION VII: PLANTWIDE CONDITIONS

1. Pursuant to §19.4(m) of Regulation 19, the Director shall be notified in writing within thirty (30) days after construction has commenced, construction is complete, the equipment and/or facility is first placed in operation, and the equipment and/or facility first reaches the target production rate.
2. Pursuant to §19.4(p) of Regulation 19, construction must commence within eighteen (18) months after the approval of the permit application. Records must be kept for two years which will enable the Department to determine compliance with the terms of this permit--such as hours of operation, throughput, upset condition, and continuous monitoring data. The records may be used, at the discretion of the Department, to determine compliance with the conditions of the permit.
3. Pursuant to §19.7 of Regulation 19, each emission point for which an emission test method is specified in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. Compliance test results shall be submitted to the Department within thirty (30) days after the completed testing. The permittee shall provide:
 - (1) Sampling ports adequate for applicable test methods
 - (2) Safe sampling platforms
 - (3) Safe access to sampling platforms
 - (4) Utilities for sampling and testing equipment
4. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304, the equipment, control apparatus and emission monitoring equipment shall be operated within their design limitation and maintained in good condition at all times.
5. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in items a and b of this condition:
 - a. Regulation 19 - Compilation of Regulations of the Arkansas State Implementation

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Plan for Air Pollution Control

Regulation 26 - Regulations of the Arkansas Operating Air Permit Program

- b. The following requirements have been specifically identified as applicable, based upon information submitted by the permittee in an application dated March 29, 1996.

Description of Applicable Regulations	Regulation	Basis
Regulations of the Arkansas Operating Air Permit Program	Regulation 26 Section 3	Facility is defined as a major source.
State Implementation Plan, Prevention of Significant Deterioration Supplement	Regulation 19 §19.9	Facility is currently a major stationary source for the purpose of applicability.
New Source Performance Standards for Fossil-Fuel-Fired Steam Generators after August 17, 1978	40 CFR 60 Subpart D	Fossil-fuel fired steam generating units have heat input rate greater than 250 MMBtu/hr.
National Emission Standards for Hazardous Air Pollutants	40 CFR 61 Subpart M	Facility meets requirements for asbestos.
Acid Rain Permit Regulations	40 CFR 72 Subpart A-D	Units meet the definition of an affected source.
SO ₂ Allowance Allocations	40 CFR 73 Subpart B	Facility is on list of Phase II Allowance Allocations.
Continuous Emission Monitoring	40 CFR 75 Subpart A-D, F, and G	Facility is subject to Acid Rain Requirements for the purpose of applicability.
NO _x Emission Reduction Program	40 CFR 76	Facility is subject to Acid Rain Requirements for the purpose of applicability.
Excess Emissions	40 CFR 77	Facility is subject to Acid Rain Requirements for the purpose of applicability.

6. Pursuant to §7(a) of Regulation 26 and 40 CFR 70.6(a)(4), the permittee is prohibited from causing any emissions which exceed any allowances that the source lawfully holds under Title IV of the Act or the regulations promulgated thereunder. No permit revision is required for increases in emissions that are authorized by allowances

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acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. This permit establishes no limit on the number of allowances held by the permittee. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement of this permit or the Act. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act.

7. Pursuant to §19.7 of Regulation 19, all reports shall be submitted within 30 days after the end of the reporting period. The first reporting period starts on the day of the permit issuance. The first report shall contain data for the first six months of operation after the date of issuance. The second and all subsequent reports shall contain 12 consecutive months of data.
8. Pursuant to A. C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6, the annual throughput of coal at the facility shall not exceed 9.2 million tons of coal per year during any consecutive twelve month period.
9. Pursuant to §19.7 and 40 CFR Part 52, Subpart E, the permittee shall maintain records which demonstrate compliance with the limit set in Plantwide Condition 8. These records may be used by the Department for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department personnel upon request.
10. Pursuant to §19.7 and 40 CFR Part 52, the permittee shall not begin to demonstrate compliance with the conditions in this permit until thirty (30) days after the issued date of this permit.
11. Pursuant to Regulation 26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall supersede and void all previously issued air permits for this facility.

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COMPLIANCE PLAN AND SCHEDULE

The Independence facility is currently in compliance with applicable regulations. The Independence facility will continue to operate in compliance with those identified regulatory provisions. The facility will also meet any future regulations that may apply on a timely basis.

Existing Monitoring

The Independence facility currently monitors SO₂, NO_x and opacity. Quarterly reports of emissions are submitted to EPA and the Department to meet NSPS and Acid Rain requirements under 40 CFR 60 and 40 CFR 75.

Changes to CO Emission Limit

The current limit for CO at the Independence facility is 300 lb/hr. This limit was based on AP-42 factors that were inaccurate for this facility. The CO limit will be increased to 3232 lb/hr which represents an in-stack concentration of 300 ppm. BACT analysis and NAAQS modeling reports were submitted with the request.

Voluntary Early Compliance Election for Coal Plant NO_x

Entergy is electing to comply with a 0.45 lb/MMBtu annual average for NO_x emissions under the Acid Rain provisions of 40 CFR 76. Compliance will begin in the year 1998 and will be determined by the average emission rate at the end of each calendar year. This emission limit will not affect the existing NSPS limit of 0.7 lb/MMBtu hourly (as determined by a 3-hour rolling average) limit.

SECTION VIII: GENERAL PROVISIONS

1. Pursuant to §§7(a) & (b) of Regulation #26 and 40 CFR 70.6(a)(2) this permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later.
2. Pursuant to §4(f) of Regulation #26, it is the duty of the permittee to submit a complete application for permit renewal at least six (6) months prior to the date of permit expiration. Permit expiration terminates the permittee's right to operate unless a complete renewal application was submitted at least six (6) months prior to permit expiration, in which case the existing permit shall remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due.
3. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(1)(ii), where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq* (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions are incorporated into the permit and shall be enforceable by the Director or Administrator.
4. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(3)(ii)(A), records of monitoring information required by this permit shall include the following:
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
5. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(3)(ii)(B), records of all required monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

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6. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(3)(iii)(A), the permittee shall submit reports of all required monitoring every 6 months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official as defined in §2 of Regulation #26.
7. Pursuant to §7(a) of Regulation #26, §19.6(a) of Regulation #19 and 40 CFR 70.6(a)(3)(iii)(B), all deviations from permit requirements, including those attributable to upset conditions as defined in the permit shall be reported to the Department. An initial report shall be made to the Department within 24 hours of discovery of the occurrence. The initial report may be made by telephone and shall include:
 - a. The facility name and location,
 - b. The process unit or emission source, which is deviating from the permit limit,
 - c. The permit limit, including the identification of pollutants, from which deviation occurs,
 - d. The date and time the deviation started,
 - e. The duration of the deviation,
 - f. The average emissions during the deviation,
 - g. The probable cause of such deviations,
 - h. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
 - i. The name of the person submitting the report.

A full report shall be made in writing to the Department within five (5) business days of discovery of the occurrence and shall include in addition to the information required by initial report a schedule of actions to be taken to eliminate future occurrences and/or to minimize the amount by which the permits limits are exceeded and to reduce the length of time for which said limits are exceeded. If the permittee wishes, they may submit a full report in writing (by facsimile, overnight courier, or other means) within 24 hours of discovery of the occurrence and such report will serve as both the initial report and full report.

8. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(5), if any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable.

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9. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(6)(i), the permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
10. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(6)(ii), 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.
11. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(6)(iii), this permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
12. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(6)(iv), this permit does not convey any property rights of any sort, or any exclusive privilege.
13. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(6)(v), the permittee shall furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may be required to furnish such records directly to the Administrator along with a claim of confidentiality.
14. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(7), the permittee shall pay all permit fees in accordance with the procedures established in Regulation #9.
15. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(8), no permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for elsewhere in this permit.

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16. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(9)(i), if the permittee is allowed to operate under different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the scenario under which the facility or source is operating.
17. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(b), all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Act unless the Department has specifically designated as not being federally enforceable under the Act any terms and conditions included in the permit that are not required under the Act or under any of its applicable requirements.
18. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(c)(1), any document (including reports) required by this permit shall contain a certification by a responsible official as defined in §2 of Regulation #26.
19. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(c)(2), the permittee shall allow an authorized representative of the Department, upon presentation of credentials, to perform the following:
 - a. Enter upon the permittee's premises where the permitted source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements.
20. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(c)(5), the permittee shall submit a compliance certification with terms and conditions contained in the permit, including emission limitations, standards, or work practices. This compliance certification shall be submitted annually and shall be submitted to the Administrator as well as to the Department. All compliance certifications required by this permit shall include the following:

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- a. The identification of each term or condition of the permit that is the basis of the certification;
 - b. The compliance status;
 - c. Whether compliance was continuous or intermittent;
 - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
 - e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and 504(b) of the Act.
21. Pursuant to §7(a) of Regulation #26, nothing in this permit shall alter or affect the following:
- a. The provisions of section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
 - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
 - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act; or
 - d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
22. Pursuant to §7(a) of Regulation #26 and 40 CFR 70.6(a)(4), the permittee is prohibited from causing any emissions which exceed any allowances that the source lawfully holds under Title IV of the Act or the regulations promulgated thereunder. No permit revision is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. This permit establishes no limit on the number of allowances held by the permittee. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement of this permit or the Act. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act.

Title VI Provisions

1. The permittee shall comply with the standards for labeling of products using ozone depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a. All containers containing a class I or class II substance which is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b. The placement of required warning statement must comply with the requirements pursuant to §82.108.
 - c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152.)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.

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- f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
- 4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

- 5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program.

SECTION IX: ACID RAIN

ORIS Code: 6641

Effective Date: January 1, 2000 through December 31, 2004

Acid Rain Permit Contents

1. SO₂ allowances allocated under this permit and NO_x requirements for each affected unit.
2. Comments, notes, and justifications regarding permit decisions and charges made to the permit application forms during the review process, and any additional requirements or conditions.
3. The permit application submitted for this source, as corrected by the Arkansas Department of Pollution Control and Ecology. The owner and operators of the source must comply with the standard requirements and special provisions set forth in the application.

1) SO₂ Allowance Allocations for each affected unit:

Pursuant to §26.12 of Regulation 26 and Title IV of the Clean Air Act, the Arkansas Department of Pollution Control and Ecology issues this permit pursuant to Regulation 26. The following table identifies the SO₂ allowances allocated to Independence Steam Electric Station, Units 1 and 2.

YEAR		2000	2001	2002	2003	2004
Unit 1	SO ₂ allowances under Table 2 or 3 of 40 CFR Part 73	18011	18011	18011	18011	18011
	Repowering	N/A	N/A	N/A	N/A	N/A
	NO _x Limit	By January 1, 1999, this permit will be reopened to add NO _x requirements in accordance with the regulations implementing section 407 of the Clean Air Act.				

YEAR		2000	2001	2002	2003	2004
Unit 2	SO ₂ allowances under Table 2 or 3 of 40 CFR Part 73	18257	18257	18257	18257	18257
	Repowering	N/A	N/A	N/A	N/A	N/A
	NO _x Limit	By January 1, 1999, this permit will be reopened to add NO _x requirements in accordance with the regulations implementing section 407 of the Clean Air Act.				

*-The number of allowances held by an affected source in a unit account may differ from the number allocated by U.S. EPA under Table 2 or 3 of 40 CFR Part 73.

2) Comments, Notes, and Justifications: None

3) Permit Application(s): Attached



Phase II Permit Application

Page 1

For more information, see instructions and refer to 40 CFR 72.30 and 72.31

This submission is: ☒ New ☐ Revised

STEP 1
Identify the source by
plant name, State, and
ORIS code from NADB

Plant Name	INDEPENDENCE	AR State	6641 ORIS Code
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STEP 2
Enter the boiler ID#
from NADB for each
affected unit, and
indicate whether a
repowering plan is
being submitted for
the unit by entering
"yes" or "no" at
column c. For new
units, enter the re-
quested information
in columns d and e

Compliance Plan				
a Boiler ID#	b Unit Will Hold Allow- ances in Accordance with 40 CFR 72.9(c)(1)	c Repowering Plan	d New Units Commence Operation Date	e New Units Monitor Certification Deadline
1	Yes			
2	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the
response in column c
of Step 2 is "Yes"
for any unit

☐ For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

Plant Name (from Step 1)

INDEPENDENCE**STEP 4**

and the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard Requirements**Permit Requirements.**

- (1) The designated representative of each affected source and each affected unit at the source shall:
 - (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
 - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - (ii) Have an Acid Rain Permit.

Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR parts 74, 75, and 76.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

- (1) The owners and operators of each source and each affected unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

- (1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
 - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
 - (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
 - (ii) All emissions monitoring information, in accordance with 40 CFR part 75;
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name (from Step 1)

INDEPENDENCE

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.

(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.

(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.

(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.

(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.

(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;

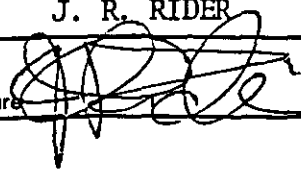
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	J. R. RIDER
Signature	
Date	11/10/95

STEP 5 (optional)
Enter the source AIRS
and FINDS identification
numbers, if known

AIRS
FINDS

APPENDIX A

Subpart D-Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971

§ 60.40 Applicability and designation of affected facility.

(a) The affected facilities to which the provisions of this subpart apply are:

(1) Each fossil-fuel-fired steam generating unit of more than 73 megawatts heat input rate (250 million Btu per hour).

(2) Each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 megawatts (250 million Btu per hour).

(b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this subpart, shall not bring that unit under the applicability of this subpart.

(c) Except as provided in paragraph (d) of this section, any facility under paragraph (a) of this section that commenced construction or modification after August 17, 1971, is subject to the requirements of this subpart.

(d) The requirements of §§ 60.44 (a)(4), (a)(5), (b) and (d), and 60.45(f)(4)(vi) are applicable to lignite-fired steam generating units that commenced construction or modification after December 22, 1976.

(e) Any facility covered under Subpart Da is not covered under this subpart.

[42 FR 37936, July 25, 1977, as amended at 43 FR 9278, Mar. 7, 1978; 44 FR 33612, June 17, 1979]

§ 60.41 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act, and in Subpart A of this part.

(a) Fossil-fuel fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer.

(b) Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

(c) Coal refuse means waste-products of coal mining, cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

(d) Fossil fuel and wood residue-fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel and wood residue for the purpose of producing steam by heat transfer.

(e) Wood residue means bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations.

(f) Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society and Testing and Materials, Designation D388-77 (incorporated by reference-see §60.17).

[39 FR 20791, June 14, 1974, as amended at 40 FR 2803, Jan. 16, 1975; 41 FR 51398, Nov. 22, 1976; 43 FR 9278, Mar. 7, 1978; 48 FR 3736, Jan. 27, 1983]

§ 60.42 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 43 nanograms per joule heat input (0.10 lb per million Btu) derived from fossil fuel or fossil fuel and wood residue.

(2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

(b)(1) On or after December 28, 1979, no owner or operator shall cause to be discharged into the atmosphere from the Southwestern Public Service Company's Harrington Station #1, in Amarillo, TX, any gases which exhibit greater than 35% opacity, except that a maximum of 42% opacity shall be permitted for not more than 6 minutes in any hour.

(2) Interstate Power Company shall not cause to be discharged into the atmosphere from its Lansing Station Unit No. 4 in Lansing, IA, any gases which exhibit greater than 32% opacity, except that a maximum of 39% opacity shall be permitted for not more than six minutes in any hour.

(3) Omaha Public Power District shall not cause to be discharged into the atmosphere from its Nebraska City Power Station in Nebraska City, NE, any gases which exhibit greater than 30% opacity, except that a maximum of 37% opacity shall be permitted for not more than six minutes in any hour.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 42 FR 61537, Dec. 5, 1977; 44 FR 76787, Dec. 28, 1979; 45 FR 36077, May 29, 1980; 45 FR 47146, July 14, 1980; 46 FR 57498, Nov. 24, 1981]

§ 60.43 Standard for sulfur dioxide.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of:

(1) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 nanograms per joule heat input (1.2 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.

(b) When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PSSO_2 = [y(340) + z(520)] / (y + z)$$

where:

PSSO₂ is the prorated standard for sulfur dioxide when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired,

y is the percentage of total heat input derived from liquid fossil fuel, and

z is the percentage of total heat input derived from solid fossil fuel.

(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

(d) [Reserved]

(e) Units 1 and 2 (as defined in Appendix G) at the Newton Power Station owned or operated by the Central Illinois Public Service Company will be in compliance with paragraph (a)(2) of this section if Unit 1 and Unit 2 individually comply with

paragraph (a)(2) of this section or if the combined emission rate from Units 1 and 2 does not exceed 470 nanograms per joule (1.1 lb per million Btu) combined heat input to Units 1 and 2.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 52 FR 28954, Aug. 4, 1987]

§ 60.44 Standard for nitrogen oxides.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain nitrogen oxides, expressed as NO₂ in excess of:

(1) 86 nanograms per joule heat input (0.20 lb per million Btu)

derived from gaseous fossil fuel.

(2) 129 nanograms per joule heat input (0.30 lb per million Btu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.

(3) 300 nanograms per joule heat input (0.70 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, by weight, or more of coal refuse).

(4) 260 nanograms per joule heat input (0.60 lb per million Btu) derived from lignite or lignite and wood residue (except as provided under paragraph (a)(5) of this section).

(5) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from lignite which is mined in North Dakota, South Dakota, or Montana and which is burned in a cyclone-fired unit.

(b) Except as provided under paragraphs (c) and (d) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PSNOx = \frac{w(260) + x(86) + y(130) + z(300)}{w + x + y + z}$$

where:

PSNOx is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w is the percentage of total heat input derived from lignite;

x is the percentage of total heat input derived from gaseous fossil fuel;

y is the percentage of total heat input derived from liquid fossil fuel; and

z is the percentage of total heat input derived from solid fossil fuel (except lignite).

(c) When a fossil fuel containing at least 25 percent, by weight, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel or wood residue, the standard for nitrogen oxides does not apply.

(d) Cyclone-fired units which burn fuels containing at least 25 percent of lignite that is mined in North Dakota, South Dakota, or Montana remain subject to paragraph (a)(5) of this section regardless of the types of fuel combusted in combination with that lignite.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 43 FR 9278, Mar. 7, 1978; 51 FR 42797, Nov. 25, 1986]

§ 60.45 Emission and fuel monitoring.

(a) Each owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions, and either oxygen or carbon dioxide except as provided in paragraph (b) of this section.

(b) Certain of the continuous monitoring system requirements under paragraph (a) of this section do not apply to owners or operators under the following conditions:

(1) For a fossil fuel-fired steam generator that burns only gaseous fossil fuel, continuous monitoring systems for measuring the opacity of emissions and sulfur dioxide emissions are not required.

(2) For a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, a continuous monitoring system for measuring sulfur dioxide emissions is not required if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis under paragraph (d) of this section.

(3) Notwithstanding § 60.13(b), installation of a continuous monitoring system for nitrogen oxides may be delayed until after the initial performance tests under § 60.8 have been conducted. If the owner or operator demonstrates during the performance test that

emissions of nitrogen oxides are less than 70 percent of the applicable standards in § 60.44, a continuous monitoring system for measuring nitrogen oxides emissions is not required. If the initial performance test results show that nitrogen oxide emissions are greater than 70 percent of the applicable standard, the owner or operator shall install a continuous monitoring system for nitrogen oxides within one year after the date of the initial performance tests under § 60.8 and comply with all other applicable monitoring requirements under this part.

(4) If an owner or operator does not install any continuous monitoring systems for sulfur oxides and nitrogen oxides, as provided under paragraphs (b)(1) and (b)(3) or paragraphs (b)(2) and (b)(3) of this section a continuous monitoring system for measuring either oxygen or carbon dioxide is not required.

(c) For performance evaluations under § 60.13(c) and calibration checks under § 60.13(d), the following procedures shall be used:

(1) Methods 6, 7, and 3B, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B are given in § 60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to this part.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent and for a continuous monitoring system measuring sulfur oxides or nitrogen oxides the span value shall be determined as follows:

[In parts per million]

Fossil fuel	Span value for sulfur dioxide	Span value for nitrogen oxides
Gas	{1}	500
Liquid	1,000	500
Solid	1,500	1,000
Combinations	1,000y+1,500z	500(x+y)+1,000z

{1} Not applicable.

where:

x = the fraction of total heat input derived from gaseous fossil fuel, and

y = the fraction of total heat input derived from liquid fossil fuel, and

z = the fraction of total heat input derived from solid fossil fuel.

(4) All span values computed under paragraph (c)(3) of this section for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm.

(5) For a fossil fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all continuous monitoring systems shall be subject to the Administrator's approval.

(d) [Reserved]

(e) For any continuous monitoring system installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/million Btu):

(1) When a continuous monitoring system for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF[20.9/(20.9 - \text{percent O}_2)]$$

where:

E, C, F, and %O₂ are determined under paragraph (f) of this section.

(2) When a continuous monitoring system for measuring carbon dioxide is selected, the measurement of the pollutant concentration and carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = C F_c [100/\text{percent CO}_2]$$

where:

E, C, F_c and %CO₂ are determined under paragraph (f) of this section.

(f) The values used in the equations under paragraphs (e) (1) and (2) of this section are derived as follows:

(1) E=pollutant emissions, ng/J (lb/million Btu).

(2) C=pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^{-4} M ng/dscm per ppm (2.59×10^{-9} M lb/dscf per ppm) where M=pollutant molecular weight, g/g-mole (lb/lb-mole). M=64.07 for sulfur dioxide and 46.01 for nitrogen oxides.

(3) %O₂, %CO₂=oxygen or carbon dioxide volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.

(4) F, F_c=a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given as follows:

(i) For anthracite coal as classified according to ASTM D388-77 (incorporated by reference-see § 60.17), F= 2.723×10^{-17} dscm/J (10,140 dscf/million Btu) and F_c= 0.532×10^{-17} scm CO₂/J (1,980 scf CO₂/million Btu).

(ii) For subbituminous and bituminous coal as classified according to ASTM D388-77 (incorporated by reference-see § 60.17), F= 2.637×10^{-17} dscm/J (9,820 dscf/million Btu) and F_c= 0.486×10^{-17} scm CO₂/J (1,810 scf CO₂/million Btu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils, F= 2.476×10^{-17} dscm/J (9,220 dscf/million Btu) and F_c= 0.384×10^{-17} scm CO₂/J (1,430 scf CO₂/million Btu).

(iv) For gaseous fossil fuels, F= 2.347×10^{-17} dscm/J (8,740 dscf/million Btu). For natural gas, propane, and butane fuels, F_c= 0.279×10^{-17} scm CO₂/J (1,040 scf CO₂/million Btu) for natural gas, 0.322×10^{-17} scm CO₂/J (1,200 scf CO₂/million Btu) for propane, and 0.338×10^{-17} scm CO₂/J (1,260 scf CO₂/million Btu) for butane.

(v) For bark F= 2.589×10^{-17} dscm/J (9,640 dscf/million Btu) and F_c= 0.500×10^{-17} scm CO₂/J (1,840 scf CO₂/million Btu). For wood residue other than bark F= 2.492×10^{-17} dscm/J (9,280 dscf/million Btu) and F_c= 0.494×10^{-17} scm CO₂/J (1,860 scf CO₂/million Btu).

(vi) For lignite coal as classified according to ASTM D388-77 (incorporated by reference-see § 60.17), F= 2.659×10^{-17} dscm/J (9,900 dscf/million Btu) and F_c= 0.516×10^{-17} scm CO₂/J (1,920 scf CO₂/million Btu).

(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/million Btu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or F_c factor (scm CO₂/J, or scf CO₂/million Btu) on either basis in lieu of the F or F_c factors specified in paragraph (f)(4) of this section:

$$F = \frac{10^4 [227.2(\text{pct.H}) + 95.5(\text{pct.C}) + 35.6(\text{pct.S}) + 8.7(\text{pct.N}) - 28.7(\text{pct.O})]}{\text{GCV}}$$

$$F_c = \frac{2.0 \times 10^{-3} (\text{pct. C})}{\text{GCV}}$$

GCV

(SI units)

$$F = \frac{10^4 [3.64(\text{pct.H}) + 1.53(\text{pct.C}) + 0.57(\text{pct.S}) + 0.14(\text{pct.N}) - 0.46(\text{pct.O})]}{\text{GCV}}$$

(English units)

$$F_c = \frac{20.0(\text{pct.C})}{\text{GCV}}$$

(SI units)

$$F_c = \frac{321 \times 10^3 (\text{pct.C})}{\text{GCV}}$$

(English units)

(i) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM method D3178-74 or D3176 (solid fuels) or computed from results using ASTM method D1137-53(75), D1945-64(76), or D1946-77 (gaseous fuels) as applicable. (These five methods are incorporated by reference-see § 60.17.)

(ii) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015-77 for solid fuels and D1826-77 for gaseous fuels as applicable. (These two methods are incorporated by reference-see § 60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or F_c value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or F_c factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \text{ or } F_c = \sum_{i=1}^n X_i (F_c)_i$$

where:

X_i=the fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.)

F_i or (F_c)_i= the applicable F or F_c factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section.

n=the number of fuels being burned in combination.

(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission and MSP report shall include the information required in § 60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(i) For sources subject to the opacity standard of § 60.42(b)(1), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 35 percent opacity, except that one six-minute average per hour of up to 42 percent opacity need not be reported.

(ii) For sources subject to the opacity standard of § 60.42(b)(2), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 32 percent opacity, except that one six-minute average per hour of up to 39 percent opacity need not be reported.

(iii) For sources subject to the opacity standard of § 60.42(b)(3), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 30 percent opacity, except that one six-minute average per hour of up to 37 percent opacity need not be reported.

(2) Sulfur dioxide. Excess emissions for affected facilities are defined as:

(i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under § 60.43.

(3) Nitrogen oxides. Excess emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards under § 60.44.

[40 FR 46256, Oct. 6, 1975]

Editorial Note: For Federal Register citations affecting § 60.45, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 60.46 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b). Acceptable alternative methods and procedures are given in paragraph (d) of this section.

(b) The owner or operator shall determine compliance with the particulate matter, SO₂, and NO_x standards in §§ 60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of particulate matter, SO₂, or NO_x shall be computed for each run using the following equation:

$$E = C F_d (20.9) / (20.9 - \%O_2)$$

E = emission rate of pollutant, ng/J (lb/million Btu).

C = concentration of pollutant, ng/dscm (lb/dscf).

%O₂ = oxygen concentration, percent dry basis.

F_d = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particulate matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B shall be used to determine the particulate matter concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train may be set to provide a gas temperature no greater than 160±14 °C (320±25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O₂ concentration for the run shall be the arithmetic mean of all the individual O₂ sample concentrations at each traverse point.

(iii) If the particulate run has more than 12 traverse points, the O₂ traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O₂ traverse points.

(3) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

(4) Method 6 shall be used to determine the SO₂ concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be taken simultaneously with, and at the same point as, the SO₂ sample. The SO₂ emission rate shall be computed for each pair of SO₂ and O₂ samples. The SO₂ emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 shall be used to determine the NO_x concentration.

(i) The sampling site and location shall be the same as for the SO₂ sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_x sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O₂ concentration (%O₂). The sample shall be taken simultaneously with, and at the same point as, the NO_x sample.

(iii) The NO_x emission rate shall be computed for each pair of NO_x and O₂ samples. The NO_x emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in §§ 60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D 2015-77 (solid fuels), D 240-76 (liquid fuels), or D 1826-77 (gaseous fuels) (incorporated by reference—see § 60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

(d) The owner or operator may use the following as alternatives to the reference methods and procedures in this section or in other sections as specified:

(1) The emission rate (E) of particulate matter, SO₂ and NO_x may be determined by using the F_c factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = C F_c (100 / \%CO_2)$$

where:

E = emission rate of pollutant, ng/J (lb/million Btu).

C=concentration of pollutant, ng/dscm (lb/dscf).

%CO₂=carbon dioxide concentration, percent dry basis.

Fc=factor as determined in appropriate sections of Method 19.

(ii) If and only if the average Fc factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B shall be used to determine the O₂ and CO₂ concentration according to the procedures in paragraph (b) (2)(ii), (4)(ii), or (5)(ii) of this section. Then if Fo (average of three runs), as calculated from the equation in Method 3B, is more than ± 3 percent than the average Fo value, as determined from the average values of Fd and Fc in Method 19, i.e., $F_{oa} = 0.209 (F_d/F_c)$, then the following procedure shall be followed:

(A) When Fo is less than 0.97 Foa, then E shall be increased by that proportion under 0.97 Foa, e.g., if Fo is 0.95 Foa, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When Fo is less than 0.97 Foa and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 Foa, e.g., if Fo is 0.95 Foa, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When Fo is greater than 1.03 Foa and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 Foa, e.g., if Fo is 1.05 Foa, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The procedures of sections 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO₂ may be determined simultaneously with the Method 5 train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.

(ii) All applicable procedures in Method 8 for the determination of SO₂ (including moisture) are used:

(4) For Method 6, Method 6C may be used. Method 6A may also be used whenever Methods 6 and 3B data are specified to determine the SO₂ emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O₂ concentration (%O₂) for the emission rate correction factor.

(6) For Method 3, Method 3A or 3B may be used.

(7) For Method 3B, Method 3A may be used.

[54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989, as amended at 55 FR 5212, Feb. 14, 1990]

§ 60.47 Innovative technology waivers; waiver of sulfur dioxide standards of performance for new stationary sources for Homer City Unit No. 3 under section 111(j) of the Clean Air Act for Multi-Stream Coal Cleaning System.

(a) Pursuant to section 111(j) of the Clean Air Act, 42 U.S.C. 7411(j), commencing on November 13, 1981 Pennsylvania Electric Company and New York State Electric & Gas Corporation shall comply with the following terms and conditions for electric generating Units Nos. 1, 2, and 3 at the Homer City Steam Electric Generating Station, Center Township, Indiana County, Pennsylvania.

(b) The foregoing terms and conditions shall remain effective through November 30, 1981, and pursuant to section 111(j)(B), shall be Federally promulgated standards of performance. As such, it shall be unlawful for Pennsylvania Electric Company and New York State Electric & Gas Corporation to operate Units Nos. 1, 2, and 3 in violation of the standards of performance established in this waiver. Violations of the terms and conditions of this waiver shall subject Pennsylvania Electric Company and New York State Electric & Gas Corporation to Federal enforcement under sections 113 (b) and (c), 42 U.S.C. 7413 (b) and (c), and 120, 42 U.S.C. 7420, of the Act as well as possible citizen enforcement under section 304 of the Act, 42 U.S.C. 7604. Pursuant to section 111(c)(1) of the Act, 42 U.S.C. 7411(c)(1), at 45 FR 3109, January 16, 1980, the Administrator delegated to the Commonwealth of Pennsylvania authority to implement and enforce the Federal Standards of Performance for New Stationary Sources of 1.2 lb SO₂/10⁶ Btu applicable to Homer City Unit No. 3. The SO₂ emission limitations specified in this waiver for Unit No. 3 are new federally promulgated Standards of Performance for New Stationary Sources for a limited time period. Thus, during the period this waiver is effective, the delegated authority of the Commonwealth of Pennsylvania to enforce the Federal Standards of Performance for New Stationary Sources of 1.2 lb SO₂/10⁶ Btu applicable to Homer City Unit No. 3 is superseded and enforcement of the terms and conditions of this waiver shall be the responsibility of the Administrator of EPA. The Commonwealth of Pennsylvania may, and is encouraged to, seek delegation of authority, pursuant to section 111(c)(1), to enforce the temporary Federal Standards of Performance for New Stationary Sources specified in this waiver. Should such authority be delegated to the State, the terms and conditions of this waiver shall be enforceable by the Administrator of EPA and the Commonwealth of Pennsylvania, concurrently. Nothing in this waiver shall affect the rights of the Commonwealth of Pennsylvania under the Decree filed in the Pennsylvania Commonwealth Court on January 28, 1981, at Docket No. 161 C.D. 1981.

(c) On December 1, 1981, and continuing thereafter, at no time shall emissions of SO₂ from Unit No. 3 exceed 1.2 lb/10⁶ Btu of heat input, as specified in 40 CFR 60.43(a)(2) (July 1, 1979).

(d) On January 15, 1982, Pennsylvania Electric Company and New York State Electric & Gas Corporation shall demonstrate compliance at Homer City Unit No. 3 with 40 CFR 60.43(a)(2) (July 1, 1979) in accordance with the test methods and procedures set forth in 40 CFR 60.8 (b), (c), (d), (e) and (f) (July 1, 1979).

(e) Emission limitations. (1) Commencing on November 13, 1981 and continuing until November 30, 1981:

(i) At no time shall emissions of SO₂ from Units Nos. 1, 2, and 3, combined, {1} exceed: 2.87 lb SO₂/10⁶ Btu of heat input in a rolling 30-day period (starting with the 60th day after the effective date of the waiver); 3.6 lb SO₂/10⁶ Btu of heat input in any day; 1 and 3.1 lb SO₂/10⁶ Btu of heat input on more than 4 days in any rolling 30-day period.

{1} A "day" (a 24-hour period) and a "discrete 3-hour period" is defined in section (g)(7)(iv).

(ii) At no time shall emissions of SO₂ from Units Nos. 1, 2, and 3, combined, {2} exceed 695 tons in any day.

{2} The procedures used for calculating combined SO₂ emissions are given in paragraph (g)(5) of this section.

(iii) At no time shall emissions of SO₂ from Units Nos. 1, 2, and 3, combined, 2 exceed 91 tons in any discrete 1 3-hour period.

(iv) At no time shall emissions of SO₂ from Units Nos. 1 and 2, combined, exceed 463 tons in any day.

(v) At no time shall emissions of SO₂ from Units Nos. 1 and 2, combined, exceed 61 tons in any discrete 1 3-hour period.

(f) Installation schedule. (1) Pennsylvania Electric and New York State Electric & Gas have selected engineering designs for necessary modifications to the Multi-Stream Coal Cleaning System (MCCS) 93B Circuit.

(2) Pennsylvania Electric and New York State Electric & Gas have placed purchase orders for all major equipment necessary to complete necessary modifications to the MCCS 93B circuit.

(3) Pennsylvania Electric and New York State Electric & Gas have

completed design engineering of the modifications to the MCCS 93B circuit.

(4) On or before September 15, 1981, Pennsylvania Electric and New York State Electric & Gas shall complete construction of the MCCS 93B circuit.

(5) On or before October 15, 1981, Pennsylvania Electric and New York State Electric & Gas shall start-up the MCCS 93B circuit.

(g) Monitoring and reporting. Throughout the waiver period the Company shall acquire sufficient quantities of emission monitoring and fuel analysis data to continuously demonstrate compliance with the combined emission limitations. The Company shall acquire heat input and emission data (sufficient to demonstrate compliance) from each boiler during all operating periods (i.e., whenever fuel is being fired), including periods of process start-up, shutdown, and malfunction. This requirement shall be met through the use of continuous emission monitoring systems (CEMS) (or as supplemented by continuous bubbler (CB) systems), heating value as determined by as-fired fuel analysis, and coal mass feed-rate measurements.

(1) Continuous Emission Monitoring System (CEMS): Primary compliance monitoring method. (i) The Company shall install, test, operate, and maintain all CEMS as the primary compliance monitoring method in such a manner as to result in the acquisition of validated data which are representative of each boiler's 3-hour, 24-hour, and 30-day emission rates. (See paragraph (g)(7) of this section.)

(ii) The validity of the emission data obtained with CEMS shall be determined initially by conducting a performance specification test (PST). Subsequent CEMS data validations shall be performed in accordance with paragraphs (g)(6) and (g)(7) of this section. All PSTs of CEMS shall include at least:

(A) All of the specifications and test procedures contained in the January 26, 1981 proposed Performance Specifications 2 and 3 (Ref. 1), 46 FR 8352; and

(B) the calibration error and response time specifications and test procedures contained in the October 10, 1979 proposed Performance Specifications 2 and 3 (Ref. 2), 44 FR 58602. The calibration error, response time, and all drift tests shall be conducted using calibration gases which conform to the requirements of paragraph (g)(6)(iii) of this section.

(2) Continuous Bubbler System (CB): Secondary compliance test method. (i) The Company shall use the CB system as a secondary compliance monitoring method to supplement CEMS data whenever a CEMS is out of service or is otherwise providing data of insufficient quality or quantity. The CB technique shall also be used to periodically assess the validity of CEMS data (See paragraph (g)(6)(i)(C) of this section).

(ii) The CB technique for quantitatively assessing SO₂ emissions (in lb/10⁶ Btu) is delineated in Appendix I of this waiver. This technique is based upon combining the basic wet-chemical technique of EPA's Reference Method 6 at 40 CFR part 60, Appendix I, July 1, 1979, (for determining SO₂ concentrations) with the gravimetric method (absorption of CO₂ onto ascarite) for determining CO₂ concentrations. Using reduced flow rates and increased reagent volumes and concentrations, the CB system may be run for much longer periods of time than Reference Method 6 at 40 CFR part 60, Appendix I (July 1, 1979). The Company may make the following modifications to the CB method as long as they periodically demonstrate that their modified CB method meets the performance criteria of paragraph (g)(6)(ii) of this section:

(A) Use a heated sample probe.

(B) Use an in-stack filter (up stream of the impingers) to remove particulate matter.

(C) Eliminate the isopropanol (initial) impingers.

(D) Use a diaphragm pump with flow regulators in place of the peristaltic pump.

(iii) The Company shall initially demonstrate its proficiency in acquiring SO₂/CO₂ data with the CB method by comparing the results obtained using the CB method with those obtained using Reference Methods 3 and 6 (See Ref. 3 and paragraph (g)(6)(ii)(B) of this section). The CB data shall be deemed initially acceptable if

the results of this test are within the limits prescribed in paragraph (g)(6)(ii) (A) and (B) of this section. Subsequently, the CB data shall be periodically revalidated as per the QA requirements of paragraph (g)(6)(ii) (A) and (B) of this section.

(3) Requirements for obtaining 3-hour and 24-hour emission data from individual boilers. Using the methods set forth in this waiver, the Company shall obtain the following quantities of 3-hour and 24-hour emission data. Failure to acquire the specified quantity or quality of data shall constitute a violation of the terms and conditions of this waiver.

(i) Data and calculation requirements for continuous emission monitoring system (CEMS). During normal operation of a CEMS (primary compliance method) to obtain emission data from one or more of Units Nos. 1, 2, and 3, the Company shall obtain the following data from each CEMS:

(A) 3-hour discrete averaging times using CEMS.-For each boiler, continuously measure and calculate eight discrete 3-hour averages each day, using the three consecutive (exclusive of exemptions below) 1-hour emission averages (each consisting of four equally spaced data points per 1-hour period). The only periods when CEMS measurements are exempted are periods of routine maintenance (as specified in the Lear Siegler Operator's Manual) and as required for daily zero/span checks and calibrations. Such exemptions notwithstanding, at no time shall less than six discrete 3-hour averages per day be obtained. Note that in calculations each 3-hour average one only uses the data available from that specific discrete average.

(B) 24-hour averaging times using CEMS. For each boiler, continuously measure and calculate one discrete 24-hour average per day, using the available (18-24) 1-hour emission averages obtained during that specific day. The only periods when CEMS measurements are exempted are periods of routine maintenance (as specified in the Lear Siegler Operator's Manual) and as required for daily zero/span checks and calibrations. Such exemptions notwithstanding, and except for the instances when a boiler operated for only part of the day, at no time shall a calculated 24-hour average consist of less than a total of eighteen 1-hour averages.

(ii) Data requirements when switching from CEMS to CB system. If it becomes necessary to take a CEMS out of service (because of CEMS inoperability or failure to meet the performance requirements (paragraph (g)(6)(i) of the section), the Company shall immediately initiate the activities necessary to begin sampling with the secondary (CB) compliance test method. However, EPA recognizes that some reasonable amount of time will be necessary to diagnose a CEMS problem, to determine whether minor maintenance will be sufficient to resolve the problem, or to determine if the monitoring system must be taken out of service. Additionally, CEMS downtime could occur during the night time shifts or other times when immediate corrective action cannot reasonably be made. Therefore, the waiver requires that at no time shall more than six hours elapse between acceptable operation of the CEMS and the start of CB sampling. All data which are obtained during any interrupted averaging period(s) shall be used to calculate the reported average(s), and the Company shall clearly indicate this data "shortfall" (e.g., acquisition of only 2 hours of data for a 3-hour averaging period) in the subsequent report (See paragraph (g)(8) of this section).

(A) 3-hour averaging times during CEMS-to-CB transition.-During any day in which a transition (from the CEMS) to the secondary compliance method is made, at least four (4) 3-hour average rates of the affected boiler's emissions shall be obtained.

Note: At least six (6) 3-hour emission averages are required when a planned CB-to-CEMS transition is performed.

(B) 24-hour averaging times that include a CEMS-to-CB transition. During any day in which a transition (from the CEMS) to the secondary compliance method is made, a 24-hour average rate of the affected boiler's emissions shall be obtained, using the combination of all available 1-hour CEMS emission averages and 3-hour CB emission averages. Such a calculation shall weight (e.g., one CB

average is equivalent to three 1-hour CEMS average values) the CB data appropriately.

(iii) Data and calculation requirements for continuous bubbler (CB) monitoring systems. During all periods when a CEMS is out of service and a CB system is in use at one or more of Units Nos. 1, 2, or 3, the Company shall obtain the following data from each CB:

(A) 3-hour averaging times using CB systems. For each boiler being monitored by a CB system, measure and calculate at least six discrete 3-hour emission rates each day.

(B) 24-hour averaging times using CB systems. For each boiler being monitored by the CB method, calculate one 24-hour average emission rate each day. Each average shall be based upon a continuous 24-hour sample.

(4) Requirements for measuring and calculating heat input rates.

(i) The Company shall determine the coal feed rate, for each boiler that is being fired, for each 24-hour period in accordance with the Company's standard procedures for weighing coal being fed to the boilers.

(ii) The Company shall determine the heat content (gross calorific value) of the coal, for each boiler being fired and for each 24-hour period, in accordance with the Company's established procedures for as-fired, 24-hour fuel sampling (15-minute sample intervals) and composite automated analysis.

(iii) The Company shall calculate the average heat input rate for each boiler for each 24-hour period (10⁶ Btu/24-hours). For each boiler, multiply the average heat content of the coal (Btu/lb) by the coal feed rate as determined for the same 24-hour averaging period.

(iv) The Company shall estimate the average 3-hour heat input rate (10⁶ Btu/3-hours) for each boiler from the previously determined 24-hour values. To estimate a 3-hour heat input rate multiply the corresponding 24-hour value (10⁶ Btu/24-hours) by the ratio of the respective 3-hour to the 24-hour megawatt outputs.

(5) Requirements for calculating combined SO₂ emissions.

(i) 3-hour averaging period: The combined emission rates from the operating boilers are equal to the sum of the products of the individual heat input rates (10⁶ Btu/3-hours) and the SO₂ emission rates (lb/10⁶ Btu as determined for the 3-hour period). This quantity, when divided by 2000 lb/ton, equals the combined tons of 3-hour SO₂ emissions (see Equation 1).

$$M_j = \sum_{i=1}^n \frac{E_{ij} H_{ij}}{2000}$$

Equation 1

Where:

M_j=combined (e.g., Units Nos. 1 and 2 or Units Nos. 1, 2, and 3) emission rates for the operating units in tons SO₂, for the jth averaging period (3-hour or 24-hour).

E_{ij}=average emission rates from the "ith" unit in lb SO₂, for the jth average period where j=3-hour or 24-hour.

H_{ij}=average heat input rates for the "ith" unit in 10⁶ Btu per "jth" averaging period where j=3-hour or 24-hour.

n=number of operating units.

Note: Equation 1 is to be used for calculating: (1) combined tons of SO₂ emissions from Units Nos. 1 and 2 and (2) combined tons of SO₂ emissions from Units Nos. 1, 2, and 3. Equation 1 is applicable to both 3-hour and 24-hour averaging periods. Furthermore, if a unit is not combusting fuel, "H_{ij}" will be zero.

(ii) 24-hour averaging period:

(A) The combined emissions from the operating boilers is equal to the sum of the products of the individual heat inputs (10⁶ Btu/24-hour) and the SO₂ emissions (lb/10⁶ Btu as determined for the 24-hour period). This quantity, when divided by 2000 lb/ton, equals the combined tons of 24-hour SO₂ emissions (see Equation 1).

(B) The combined emissions from the operating boilers, in the units lb/10⁶ Btu, is equal to the sum of the products of the individual heat inputs (10⁶ Btu/24-hour) and the SO₂ emissions (lb/10⁶ Btu as

determined for the 24-hour period) divided by the sum of the combined heat inputs (see Equation 2).

$$E = \frac{\sum_{i=1}^n (E_i H_i)}{H_i} \quad \text{Equation 2}$$

Where:

E=combined emission rates for the operating units in lb SO₂/10⁶ Btu, for the 24-hour averaging period.

E_i=24-hour average emission rates from the "ith" unit in lb SO₂/10⁶ Btu.

H_i=24-hour average heat input rates for the "ith" unit in 10⁶ Btu/24-hour.

n=number of operating units.

Note: If a unit is not combusting fuel, "H_i" will be zero.

(iii) 30-day rolling average: Once every day, calculate combined 30-calendar day emission average rates (beginning 60 days after the effective date of this waiver), using all available combined 24-hour emission rate averages (paragraph (g)(5)(ii)(B) of this section), for the most recent 30 consecutive calendar days. To make the two calculations for the combined (Units Nos. 1, 2, and 3; Units Nos. 1 and 2) emission rates, add the 30 consecutive daily combined average emission rates (lb SO₂/10⁶ Btu) and divide the sum by 30 days.

(6) Quality Assurance (QA) requirements. The Company shall validate the required emission data by performing at least the quality assurance procedures specified herein. These QA requirements are considered the minimum necessary to ensure that the sampling methods employed produce valid data. The performance criteria that are established in this section and that are restated in Table 1 are considered both necessary and reasonably achievable. If, for any reason, a CEMS system fails to achieve the required specifications, the CEMS shall be immediately taken out of service and sampling with a CB system shall be initiated. If, for any reason, a CB (which is being used while a CEMS is out of service) fails to meet the required specifications, the Company shall notify the Director of the Division of Stationary Source Enforcement (Washington, DC) within 72 hours, as per paragraph (g)(8)(iv) of this section. The Company is encouraged to supplement these procedures to improve the quality of the emission data obtained.

(i) QA requirements, calculation procedures, and specification limits for CEMS. At a minimum, the Company shall conduct the following initial, daily, weekly, and quarterly QA evaluations of each boiler's CEMS data. Where designated, the response time and calibration error test procedures contained in Reference 2 and the remaining performance test procedures, including those for relative accuracy, of the January 26, 1981 proposed Performance Specifications 2 and 3 (Ref. 1) shall be used.

(A) Daily zero and calibration checks of the CEMS. Conduct the following zero and calibration drift checks of each CEMS at approximately 24-hour intervals, and use the equations provided here to determine if the CEMS meets the designated drift specifications. All monitors that have exhibited drift during the previous 24-hour period must be adjusted immediately after the drift checks have been performed and the results have been recorded.

(1) 24-hour zero drift of the SO₂ monitor (this test is to be performed using low range (2-5%) span gas):

Specification limits: 8.0% of span in any 24-hour period; 2.0% of span for any three consecutive 24-hour periods.

$$\text{Equation 3}$$

$$24\text{-hour SO}_2 \text{ zero drift} = (\text{CEMS}_z - G_z) / \text{CEMS}_s \times 100$$

where:

CEMSz=monitor zero value (ppm)

Gz=zero gas value (ppm)

CEMSs=monitor span value (ppm)

(2) 24-hour zero drift of the O2 monitor:

Specification limits: 2.0% O2 in any 24-hour period; 0.5% O2 for any three consecutive 24-hour periods.

Equation 4

24-hour O2 zero drift = $\frac{\text{CEMSz}-\text{Gz}}{\text{CEMSs}} \times 100$

where:

CEMSz=monitor zero value (%O2)

Gz=zero gas value (%O2)

(3) 24-hour calibration drift of the SO2 monitor (this test is to be performed using 85-95% span gas):

Specification limits: 10.0% of span in any one 24-hour period; 2.5% of span for any three consecutive 24-hour periods.

Equation 5

24-hour SO2 calibration drift = $\frac{\text{CEMSr}-\text{Gv}}{\text{CEMSs}} \times 100$

where:

CEMSr=monitor reading (ppm)

Gv=calibration gas value (ppm)

CEMSs=monitor span value (ppm)

(4) 24-hour calibration drift of the O2 monitor:

Specification limits: 2.0% O2 in any one 24-hour period; 0.5% O2 for any three consecutive 24-hour periods.

Equation 6

24-hour O2 calibration drift = $\frac{\text{CEMSr}-\text{Gv}}{\text{CEMSs}} \times 100$

where:

CEMSr=monitor reading (%O2)

Gv=calibration gas value (%O2)

(B) Daily mid-range checks of the CEMS. Conduct the following mid-range calibration checks of each CEMS after performing the zero and calibration drift checks. The purpose for requiring mid-range calibration checks is to verify CEMS linearity between the zero and calibration values. The mid-range calibration checks

shall be conducted at approximately 24-hour intervals (or more frequently), and the equations provided shall be used to determine if the CEMS meets the designated specification limits:

24-hour mid-range drift check of the SO2 and the O2 monitors (this test is to be performed using 45-55% span gas): Specification limits (same for SO2 and O2 monitors): 10% of mid-range gas in any one 24-hour period and 5.0% of mid-range gas in any three consecutive 24-hour periods.

Equation 7

SO2 and O2 mid-range drift = $\left[\frac{\text{CEMSr}}{\text{Gv}} - 1 \right] \times 100$

where:

CEMSr=monitor reading (ppm SO2 or %O2)

Gv=mid-range gas value (ppm SO2 or %O2)

(C) Initial and weekly checks of the CEMS. Initially and once each week, conduct at least one 24-hour modified relative accuracy test of each CEMS (combined SO2 and O2 channels in units of SO2 lb/1016 Btu) using the CB method. If the difference between the CEMS and CB exceeds the designated specification limit, the 24-hour test must be repeated, within the next 24-hour period. If the CEMS again fails to meet the specification limit, remove the monitor from service.

Specification limit: ±20% (maximum percent difference between CEMS and CB)

Equation 8

24-hour percent difference (CEM vs. CB) = $\left[\frac{\text{CEMS}}{\text{CB}} - 1 \right] \times 100$

where:

CEMS=SO2/O2 monitor system reading (SO2 lb/1016 Btu)

CB=CB measurement results (SO2 lb/1016 Btu)

(D) Initial and quarterly performance specification tests of CEMS. Initially and once each three months, conduct at least one 3-hour relative accuracy test (combined SO2 and O2 channels as per Reference 1), and a response time and calibration error test, (as per Reference 2). The calculation procedures provided in References 1 and 2 shall also be used.

Specification limits:

Relative Accuracy=±20% (maximum percent difference between the CEMS and the RM data in units of lb SO2/1016 Btu)

Response Time=15 minutes

Calibration Error=5.0% (SO2 and O2 channels separately)

(E) Unscheduled performance specification tests of the CEMS. If for any reason (other than routine maintenance as specified in the Lear Siegler operating manual) the CEMS is taken out of service or its performance is not within the specification limits of paragraph (g)(6) of this section, the Company shall conduct a complete Performance Specification Test (PST) of the CEMS, according to the combined requirements of References 1 and 2, as per paragraph (g)(6)(i)(D) of this section. Whenever a CEMS is taken out of service and a supplementary CB system is being used, the CEMS shall not replace the CB system until such time that the Company has demonstrated that the performance of the CEMS is within all of the performance limits established by paragraphs (g)(6)(i) (A), (B), (C), and (D) of this section.

(ii) QA requirements, calculation procedures, and specification limits for CB systems. At a minimum, the Company shall conduct the following initial, weekly, and quarterly QA evaluations of all CB

systems that are being used:

(1) For any quality assurance evaluations of a CEMS; and
(2) As the secondary compliance method when a CEMS is out of service. If a CB system does not meet these specifications, then:

(1) The CB must immediately be taken out of service;
(2) The Company must notify the Director, Division of Stationary Source Enforcement (Washington, DC) within 72 hours after this determination is made; and

(3) The Company will be considered in violation of the provisions of the waiver until an acceptable monitoring method is initiated (see paragraph (g)(8)(iii) of this section).

(A) Initial and weekly mid-range calibration checks of the CB system. Calibration checks of the CB system, using mixed SO₂/CO₂ mid-range calibration gas, shall be performed initially and at least once each week thereafter. The calibration gas shall be sampled by the CB system for no less than 2 hours at a flow rate approximately the same as used during emission sampling. The following equation shall be used to determine if the CB meets the designated mid-range calibration specification limit.

Specification limit: 10.0% (maximum percent difference between CB value and mid-range gas value).

Equation 9

$$\text{Percent difference (CB vs. calibration gas)} = \left[\frac{\text{CB}}{\text{Gv}} - 1 \right] \times 100$$

where:

CB=bubbler value (SO₂ lb/106 Btu)

Gv=mixed SO₂/CO₂ mid-range calibration gas value (SO₂ lb/106 Btu)

(B) Initial and quarterly relative accuracy tests of the CB systems. Operate at least one of the CB systems used during the quarter for a 3-hour period. During the same three hour period, collect at least one paired set of Reference Method 3 and 6 samples. Each paired set shall consist of at least three to six 20-60 minute consecutive ("back-to-back") runs. The following equation shall be used to determine if the CB meets the designated relative accuracy specifications limit.

CB Specification limit: 10.0% (maximum percent difference between CB value and and RM value).

Equation 10

$$\text{Percent difference (CB vs. RM)} = \left[\frac{\text{CB}}{\text{RM}} - 1 \right] \times 100$$

where:

CB=bubbler value (SO₂ lb/106 Btu)

RM=average value of the paired Reference Method 3 and 6 runs (SO₂ lb/106 Btu)

(iii) QA requirements and specification limit for calibration gases. All calibration gases used for daily, weekly, or quarterly calibration drift checks, CB calibration checks and performance specification tests shall be analyzed following EPA Traceability Protocol No. 1 (see reference 4) or with Method 3 or 6. If Method 3 or 6 is used, do the following. Within two weeks prior to its use on a CEMS, perform triplicate analyses of the cylinder gas with the applicable reference method until the results of three consecutive individual runs agree within 10 percent of the average. Then use this average for the cylinder gas concentration.

(iv) Quality assurance checks for laboratory analysis. Each day that

the Company conducts Reference Method 6 or CB laboratory analyses, at least two SO₂ audit samples shall be analyzed concurrently, by the same personnel, and in the same manner as the Company uses when analyzing its daily emission samples. Audit samples must be obtained from EPA. The following equation shall be used to calculate the designated specification limit to determine if the Company's laboratory analysis procedures are adequate.

Analysis specification limit (for each of two audit samples):
5% (maximum percent difference between laboratory value and the average of the actual value of the audit samples).

Equation 11

$$\text{Percent difference (laboratory vs. actual)} = \left[\frac{\text{SLV}}{\text{SAV}} - 1 \right] \times 100$$

where:

SLV=laboratory value (mg/DSCM) of the audit sample

SAV=actual value (mg/DSCM) of the audit sample

(v) QA requirements, calculation procedures, and specification limits for 24-hour fuel sampling and analysis. At a minimum, the Company shall conduct the following bi-weekly QA evaluations of each boiler's fuel sampling and analysis data.

(A) Initially and at least bi-weekly the Company (or its own contractor laboratory) shall prepare and split a 60 mesh (250 micron) sample of coal (24-hour composite) with an independent laboratory. The Company shall compare the independent laboratory's heat content values to those of the Company's respective analyses. Use the following equation to determine if the Company's coal analysis procedures are adequate.

Specification limit: 500 Btu/lb (maximum difference between the two laboratories' results)

Equation 12

$$\text{Inter-laboratory difference} = \text{CFA-IFA}$$

where:

CFA=Company's fuel analysis (Btu/lb)

IFA=Independent laboratory analysis (Btu/lb)

(B) Analysis of reference coal-At a minimum, the Company shall initially (and thereafter bi-weekly), but on alternating weeks from above (g)(6)(v)(A) of this section analysis, analyze the heat content of at least one reference coal sample. Reference coal samples must be obtained from EPA. Use the following equation to determine if the Company's fuel analysis procedures are adequate.

Specification limit: 500 Btu/lb (maximum difference between the Company laboratory's value and the heat content of the reference coal).

Equation 13

$$\text{Difference between Company's laboratory and reference} = \text{FAV-FLV}$$

where:

FLV=laboratory value (Btu/lb)

FAV=reference value (Btu/lb)

(vi) The use of more than the minimum quantities of data to calculate the QA specifications. Whenever the Company

supplements, expands, or otherwise obtains more than the minimum amount of QA data required by paragraph (g)(6) of this section for the QA evaluations, the Company shall use all available data in assessing achievement of the QA specifications. All of the equations delineated above may be expanded algebraically to accommodate increased data, sample runs, or test repetitions.

(7) Compliance provisions. (i) Compliance with all of the provisions of this waiver requires:

(A) Documentation that the combined emission levels (of Units Nos. 1, 2, and 3 or 1 and 2, as appropriate) did not exceed the emission limitations specified in paragraph (e) of this section.

(B) Documentation that the Company acquired at least the minimum quantity and quality of valid emission data specified in paragraph (g)(3) of this section.

(C) Documentation that the Company performed at least the minimum quality assurance checks specified in paragraph (g)(6) of this waiver; and

(D) Timely and adequate reporting of all data specified in paragraph (g)(8) of this section.

Failure to meet any of these requirements constitutes a violation of this waiver.

(ii) SO₂ emissions rate data from individual boilers shall be obtained by the primary compliance test method (CEMS), by the secondary compliance test method (CB), or other methods approved by the Administrator. Data for the heat input determination shall be obtained by 24-hour as-fired fuel analysis and 24-hour coal feed rate measurements, or other methods approved by the Administrator. Compliance with all SO₂ emission limitations shall be determined in accordance with the calculation procedures set forth in paragraph (g)(5) of this section or other procedures approved by the Administrator. The Company must demonstrate compliance with all 3-hour, 24-hour, and 30-day SO₂ emission limitations during all periods of fuel combustion in one or more boilers (beginning with the effective date of the waiver), and including all periods of process start-up, shutdown, and malfunction.

(iii) If the minimum quantity or quality of emission data (required by paragraph (g) of this section) were not obtained, compliance of the affected facility with the emission requirements specified in this waiver may be determined by the Administrator using all available data which is deemed relevant.

(iv) For the purpose of demonstrating compliance with the emission limitations and data requirements of this waiver:

(A) "A day" (24-hour period) begins at 12:01 p.m. and ends at 12:00 noon the following day. The Company may select an alternate designation for the beginning and end of the 24-hour day. However, the Agency must be notified of any alternate designation of a "day" and must be maintained throughout the waiver period. Also, for the purpose of reporting, each day shall be designated by the calendar date corresponding with the beginning of the 24-hour period;

(B) Where concurrent 24-hour data averages are required (i.e., coal feed rate, fuel sampling/analysis, SO₂ tons/24 hours, and SO₂ lb/10¹⁶ Btu), the designated 24-hour period comprising a day shall be consistent for all such averages and measurement data; and

(C) There are eight discrete 3-hour averaging periods during each day.

(8) Notification and reporting requirements--(i) Notification: The Company shall provide at least 30 days notice to the Director, Division of Stationary Source Enforcement (Washington, DC) of any forthcoming quarterly CEMS Performance Specification Tests and CB accuracy tests.

(ii) Quarterly Compliance and Monitoring Assessment Report requirements: The Company shall submit to the Director, Division of Stationary Source Enforcement (Washington, DC) "hard copy" quarterly reports that present compliance data and relevant monitoring and process data (e.g., process output rate, heat input rate, monitoring performance, and quality assurance) acquired during the reporting period. Quarterly reports shall be postmarked no later than 30 days after the completion of every (whole or partial) calendar quarter during which the waiver is in effect.

Note: These requirements do not replace or preclude the "Unscheduled Reporting Requirements" contained in paragraph (g)(8)(iii) of this section.

The following specific information shall be furnished for every calendar day:

- (A) General information. (1) Calendar date;
- (2) The method(s), including description, used to determine the 24-hour heat input to each boiler (in units of Btu/hour);
- (3) The "F" factor(s) used for all applicable calculations, the method of its determination, and the type of fuel burned;
- (B) Emission data. (1) Combined (Units Nos. 1, 2, and 3) 24-hour average SO₂ emission rate (in units of lb/MMBtu);
- (2) Combined (Units Nos. 1, 2 and 3) rolling 30-day average SO₂ emission rate (in units of lb/MMBtu);
- (3) Combined (Units Nos. 1, 2, and 3) 3-hour average emission rates (in units of tons SO₂);
- (4) Combined (Units Nos. 1, 2, and 3) 24-hour average emission rates (in units of tons SO₂);
- (5) Combined (Units Nos. 1 and 2) 3-hour average emission rates (in units of tons SO₂); and
- (6) Combined (Units Nos. 1 and 2) 24-hour average emission rates (in units of tons SO₂).

(C) Quality assurance check data. (1) The date and summary of results from all (initial and repetitions) of the quality assurance checks performed during the quarter. This includes all analytical results on EPA's SO₂ and coal audit samples.

(2) Description(s) of any modification(s) made to the CEMS or CB which could affect the ability of those systems to comply with the performance specifications in References 1 and 2, or the CB performance specifications established by section (g) of this waiver.

(D) Atypical operations. (1) Identification of specific periods during the calendar quarter when each boiler was not combusting fuel;

(2) Periods of time when 3-hour, 24-hour, and/or 30-day averages were obtained using continuous bubbler data;

(3) All emission averages which have been calculated using a composite of two or more different sampling methods (i.e., periods when both CEMS and CB systems have been used) must be identified by designating all duration(s) and cause(s) of data loss during such periods;

(4) For each instance when a CEMS has been out of service, the Company shall designate:

- (i) Time, date, duration;
- (ii) Reason for such downtime;
- (iii) Corrective action taken;
- (iv) Duration before CB sampling began;
- (v) Time, date, and performance specification test (summary) results acquired before CEMS returned to service; and
- (vi) Time and date when CEMS actually returned to service, relative to terminating CB sampling.

(5) Where only a portion of continuous data from any averaging period(s) was obtained, the duration per averaging period(s) when data were acquired and were used to calculate the emission average(s) must be identified;

(6) If the required quantity or quality of emission data (as per paragraph (g) of this section) were not obtained for any averaging period(s), the following information must also be reported for each affected boiler. (See also Unscheduled Reporting Requirements, paragraph (g)(7)(iv) of this section:

- (i) Reason for failure to acquire sufficient data;
- (ii) Corrective action taken;
- (iii) [Reserved]
- (iv) Characteristics (percent sulfur, ash content, heating value, and moisture) of the fuel burned;
- (v) Fuel feed rates and steam production rates;
- (vi) All emission and quality assurance data available from this quarter; and

(vii) Statement (signed by a responsible Company official) indicating if any changes were made in the operation of the boiler or any measurement change (± 20 percent) from the previous averaging

period) in the type of fuel or firing rate during such period.

(E) Company certifications. The Company shall submit a statement (signed by a responsible Company official) indicating:

(1) Whether or not the QA requirements of this waiver for the CEMS, CB, and fuel sampling/analysis methods, or other periodic audits, have been performed in accordance with the provisions of this waiver;

(2) Whether or not the data used to determine compliance was obtained in accordance with the method and procedures required by this waiver, including the results of the quality assurance checks;

(3) Whether or not the data requirements have been met or, if the minimum data requirements have not been met due to errors that were unavoidable (attach explanation);

(4) Whether or not compliance with all of the emission standards established by this waiver have been achieved during the reporting period.

(iii) Unscheduled reporting requirements. The Company shall submit to the Director, Division of Stationary Source Enforcement (Washington, DC).

(A) Complete results of all CEMS performance specification tests within 45 days after the initiation of such tests;

(B) The Company shall report, within 72 hours, each instance of:

(1) Failure to maintain the combined (Units Nos. 1, 2, and 3 and Units Nos. 1 and 2, respectively) SO₂ emission rates below the emission limitations prescribed in section (e) of this waiver;

(2) Failure to acquire the specified minimum quantity of valid emission data; and

(3) Failure of the Company's CB(s) to meet the quality assurance checks.

REFERENCES

1. Standards of Performance for New Stationary Sources; Revisions to General Provisions and Additions to Appendix A, and Reproposal of Revisions to Appendix B, 46 FR 8352 (January 26, 1981).

2. Proposed Standards of Performance for New Stationary Sources; Continuous Monitoring Performance Specifications 44 FR 58602 (October 10, 1979).

3. 40 CFR part 60, Appendix A (July 1, 1979).

4. Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods. EPA-600/4-77-027b, August 1977.

Table 1-Required Performance Criteria for Quality Assurance (QA) Evaluations

Sampling method	Minimum frequency	QA check	Specification limit	Duration	Calculation procedures
CEMS	Daily	24-hour zero drift SO ₂	2.0 percent span	3 consecutive days	Equation 4.
CEMS	Daily	24-hour zero drift SO ₂	8.0 percent span	24 hours	Equation 4.
CEMS	Daily	24-hour calibration drift SO ₂	2.5 percent span	3 consecutive days	Equation 5.
CEMS	Daily	24-hour calibration drift SO ₂	10.0 percent span	24 hours	Equation 5.
CEMS	Daily	24-hour zero drift O ₂	0.5 percent O ₂	3 consecutive days	Equation 6.
CEMS	Daily	24-hour zero drift O ₂	2.0 percent O ₂	24 hours	Equation 6.

CEMS	Daily	24-hour calibration drift O ₂	0.5 percent O ₂	3 consecutive days	Equation 7.
CEMS	Daily	24-hour calibration drift O ₂	2.0 percent O ₂	24 hours	Equation 7.
CEMS	Daily	24-hour mid range check (SO ₂ & O ₂)	5.0 percent calibration gas value	3 consecutive days	Equation 8.
CEMS	Daily	24-hour mid range check (SO ₂ & O ₂)	10.0 percent calibration gas value	24 hours	Equation 8.
CEMS{1}	Weekly{1}	Modified relative accuracy{1}	20.0 percent difference {1}	24 hours{1}	Equation 9.{1}
CEMS	Initial and quarterly	Relative accuracy (SO ₂ /O ₂ combined)	20.0 percent difference	9-12 hours	See Reference 1
CEMS	Initial and quarterly	Calibration error	50.0 percent calibration gas value	(N/A)	See Reference 2
CEMS	Initial and quarterly	Response time	15 minutes	(N/A)	See Reference 2
CEMS	Initial and quarterly	24-hour calibration drift (SO ₂ and O ₂ or CO ₂)	2.5 percent span	7 consecutive days	See Reference 1
CB	Initial and weekly	Mid range check (SO ₂ / CO ₂)	10.0 percent calibration gas value	(N/A)	Equation 10
CB	Initial and quarterly	Relative accuracy (SO ₂ / CO ₂ combined)	10.0 percent difference	3 hours	Equation 11
Fuel S&A	Initial and bi-weekly	Split sample analysis	500 Btu/hr difference	(N/A)	Equation 13
Fuel S&A	Initial and bi-weekly	Reference coal analysis	500 Btu/hr difference	(N/A)	Equation 14
Laboratory Analysis	Daily	Method 6 audit sample analysis	5.0 percent difference	(N/A)	Equation 12

{1} Failure to meet this specification requires the test to be repeated one time. If this test documents a second failure to CEMS must be taken out of service.

(Note: The Company may use the method or its modifications which it requested and which are restated in section (g)(2)(ii)(A) during the waiver period.)

1. Applicability and Principle.

1.1 Applicability. This method applies to the determination of sulfur dioxide (SO₂) emissions from combustion sources in terms of emission rate ng/J (lb/MMBtu).

1.2. Principle. A gas sample is extracted from the sampling point (in the emission exhaust duct or stack) over a 24-hour or other specified time period. The SO₂ and CO₂ contained in the sampled exhaust gases are separated and collected in the sampling train. The SO₂ fraction is measured by the barium-thorium titration method and CO₂ is determined gravimetrically.

2. Apparatus.

2.1 Sampling. The sampling train is shown in Figure 1; the equipment required is the same as for Method 6, except as specified below:

2.1.1 Impingers. Three 150 ml. Mae West impingers with a 1-mm

restricted tip.

2.1.2 Absorption Tubes. Two 51 mm x 178 mm glass tubes with matching one-hole stoppers.

2.2 Sample Recovery and Analysis. The equipment needed for sample recovery and analysis is the same as required for Method 6. In addition, a balance to measure (within 0.05g) is needed for analysis.

3. Reagents.

Unless otherwise indicated, all reagents must conform to the specifications established by the Committee on Analytical Reagents of the American Chemical Society. Where such specifications are not available, use the best available grade.

3.1. Sampling. The reagents required for sampling are the same as specified in Method 6, except that 10 percent hydrogen peroxide is used. In addition, the following reagents are required:

3.1.1 Drierite. Anhydrous calcium sulfate (CaSO₄) desiccant, 8 mesh.

3.1.2 Ascarite. Sodium hydroxide coated asbestos for absorption of CO₂, 8 to 20 mesh.

3.2 Sample Recovery and Analysis. The reagents needed for sample

Subpart M-National Emission Standard for Asbestos

Authority: 42 U.S.C. 7401, 7412, 7414, 7416, 7601.

Source: 49 FR 13661, Apr. 5, 1984, unless otherwise noted.

§ 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in §61.142 through 61.151, 61.154, and 61.155.

[55 FR 48414, Nov. 20, 1990]

§ 61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

Active waste disposal site means any disposal site other than an inactive site.

Adequately wet means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste materials means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

Asbestos mill means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

Asbestos tailings means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

Asbestos waste from control devices means any waste material that contains asbestos and is collected by a pollution control device.

Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Commercial asbestos means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

Cutting means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by nonroutine failures of equipment.

Fabricating means any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

Facility means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

Facility component means any part of a facility including equipment.

Friable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763 section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

Fugitive source means any source of emissions not controlled by an air pollution control device.

Glove bag means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rule on occupational exposure to asbestos (appendix G to 29 CFR 1926.58).

Grinding means to reduce to powder or small fragments and includes mechanical chipping or drilling.

In poor condition means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

Installation means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control).

Leak-tight means that solids or liquids cannot escape or spill out. It also means dust-tight.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operation, or any other preventable upset conditions, equipment breakdown, or process failure.

Manufacturing means the combining of commercial asbestos-or, in the case of woven friction products, the combining of textiles containing commercial asbestos-with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

Natural barrier means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

Nonfriable asbestos-containing material means any material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section

1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Nonscheduled renovation operation means a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted.

Outside air means the air outside buildings and structures, including, but not limited to, the air under a bridge or in an open air ferry dock.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

Particulate asbestos material means finely divided particles of asbestos or material containing asbestos.

Planned renovation operations means a renovation operation, or a number of such operations, in which some RACM will be removed or stripped within a given period of time and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

Regulated asbestos-containing material (RACM) means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Remove means to take out RACM or facility components that contain or are covered with RACM from any facility.

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

Resilient floor covering means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using polarized light microscopy according to the method specified in appendix A, subpart F, 40 CFR part 763, Section 1, Polarized Light Microscopy.

Roadways means surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

Strip means to take off RACM from any part of a facility or facility components.

Structural member means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

Visible emissions means any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

Waste generator means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

Waste shipment record means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

Working day means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

[49 FR 13661, Apr. 5, 1984; 49 FR 25453, June 21, 1984, as amended by 55 FR 48414, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.142 Standard for asbestos mills.

- (a) Each owner or operator of an asbestos mill shall either discharge

no visible emissions to the outside air from that asbestos mill, including fugitive sources, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(b) Each owner or operator of an asbestos mill shall meet the following requirements:

(1) Monitor each potential source of asbestos emissions from any part of the mill facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(2) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunction, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(3) Maintain records of the results of visible emissions monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(4) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(5) Retain a copy of all monitoring and inspection records for at least 2 years.

(6) Submit quarterly a copy of visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

>> See accompanying hardcopy for illustration.

Part 61.142, page 80. <<

>> See accompanying hardcopy for illustration.

Part 61.142, page 81. <<

[55 FR 48416, Nov. 20, 1990]

§ 61.143 Standard for roadways.

No person may construct or maintain a roadway with asbestos tailings or asbestos-containing waste material on that roadway, unless, for asbestos tailings.

(a) It is a temporary roadway on an area of asbestos ore deposits (asbestos mine); or

(b) It is a temporary roadway at an active asbestos mill site and is encapsulated with a resinous or bituminous binder. The encapsulated road surface must be maintained at a minimum frequency of once per year to prevent dust emissions; or

(c) It is encapsulated in asphalt concrete meeting the specifications

contained in section 401 of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-85, 1985, or their equivalent.

[55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.144 Standard for manufacturing.

(a) Applicability. This section applies to the following manufacturing operations using commercial asbestos.

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, and sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine utilizing asbestos diaphragm technology.

(10) The manufacture of shotgun shell wads.

(11) The manufacture of asphalt concrete.

(b) Standard. Each owner or operator of any of the manufacturing operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from these operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the manufacturing facility, including air cleaning devices, process equipment, and buildings housing material processing and handling equipment, at least once each day during daylight hours for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following.

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit quarterly a copy of the visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

[49 FR 13661, Apr. 5, 1984, as amended at 55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.145 Standard for demolition and renovation.

(a) Applicability. To determine which requirements of paragraphs (a), (b), and (c) of this section apply to the owner or operator of a demolition or renovation activity and prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. The requirements of paragraphs (b) and (c) of this section apply to each owner or operator of a demolition or renovation activity, including the removal of RACM as follows:

(1) In a facility being demolished, all the requirements of paragraphs (b) and (c) of this section apply, except as provided in paragraph (a)(3) of this section, if the combined amount of RACM is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(2) In a facility being demolished, only the notification requirements of paragraphs (b)(1), (2), (3)(i) and (iv), and (4)(i) through (vii) and (4)(ix) and (xvi) of this section apply, if the combined amount of RACM is

(i) Less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, and

(ii) Less than one cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously or there is no asbestos.

(3) If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements of paragraphs (b)(1), (b)(2), (b)(3)(iii), (b)(4) (except (b)(4)(viii)), (b)(5), and (c)(4) through (c)(9) of this section apply.

(4) In a facility being renovated, including any individual nonscheduled renovation operation, all the requirements of paragraphs (b) and (c) of this section apply if the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(iii) To determine whether paragraph (a)(4) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the combined additive amount of RACM to be removed or stripped during a calendar year of January 1 through December 31.

(iv) To determine whether paragraph (a)(4) of this section applies to emergency renovation operations, estimate the combined amount of RACM to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(5) Owners or operators of demolition and renovation operations are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(b) Notification requirements. Each owner or operator of a demolition or renovation activity to which this section applies shall:

(1) Provide the Administrator with written notice of intention to demolish or renovate. Delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(2) Update notice, as necessary, including when the amount of asbestos affected changes by at least 20 percent.

(3) Postmark or deliver the notice as follows:

(i) At least 10 working days before asbestos stripping or removal work or any other activity begins (such as site preparation that would break up, dislodge or similarly disturb asbestos material), if the operation is described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section. If the operation is as described in paragraph (a)(2) of this section, notification is required 10 working

days before demolition begins.

(ii) At least 10 working days before the end of the calendar year preceding the year for which notice is being given for renovations described in paragraph (a)(4)(iii) of this section.

(iii) As early as possible before, but not later than, the following working day if the operation is a demolition ordered according to paragraph (a)(3) of this section or, if the operation is a renovation described in paragraph (a)(4)(iv) of this section.

(iv) For asbestos stripping or removal work in a demolition or renovation operation, described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section, and for a demolition described in paragraph (a)(2) of this section, that will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator as follows:

(A) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin after the date contained in the notice,

(1) Notify the Administrator of the new start date by telephone as soon as possible before the original start date, and

(2) Provide the Administrator with a written notice of the new start date as soon as possible before, and no later than, the original start date. Delivery of the updated notice by the U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(B) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin on a date earlier than the original start date,

(1) Provide the Administrator with a written notice of the new start date at least 10 working days before asbestos stripping or removal work begins.

(2) For demolitions covered by paragraph (a)(2) of this section, provide the Administrator written notice of a new start date at least 10 working days before commencement of demolition. Delivery of updated notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(C) In no event shall an operation covered by this paragraph begin on a date other than the date contained in the written notice of the new start date.

(4) Include the following in the notice:

(i) An indication of whether the notice is the original or a revised notification.

(ii) Name, address, and telephone number of both the facility owner and operator and the asbestos removal contractor owner or operator.

(iii) Type of operation: demolition or renovation.

(iv) Description of the facility or affected part of the facility including the size (square meters [square feet] and number of floors), age, and present and prior use of the facility.

(v) Procedure, including analytical methods, employed to detect the presence of RACM and Category I and Category II nonfriable ACM.

(vi) Estimate of the approximate amount of RACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.

(vii) Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.

(viii) Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of this section.

(ix) Scheduled starting and completion dates of demolition or renovation.

(x) Description of planned demolition or renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.

(xi) Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

(xii) Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

(xiii) A certification that at least one person trained as required by paragraph (c)(8) of this section will supervise the stripping and removal described by this notification. This requirement shall become effective 1 year after promulgation of this regulation.

(xiv) For facilities described in paragraph (a)(3) of this section, the name, title, and authority of the State or local government representative who has ordered the demolition, the date that the order was issued, and the date on which the demolition was ordered to begin. A copy of the order shall be attached to the notification.

(xv) For emergency renovations described in paragraph (a)(4)(iv) of this section, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.

(xvi) Description of procedures to be followed in the event that unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

(xvii) Name, address, and telephone number of the waste transporter.

(5) The information required in paragraph (b)(4) of this section must be reported using a form similar to that shown in Figure 3.

(c) Procedures for asbestos emission control. Each owner or operator of a demolition or renovation activity to whom this paragraph applies, according to paragraph (a) of this section, shall comply with the following procedures:

(1) Remove all RACM from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. RACM need not be removed before demolition if:

(i) It is Category I nonfriable ACM that is not in poor condition and is not friable.

(ii) It is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition; or

(iii) It was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of.

(iv) They are Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.

(2) When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections:

(i) Adequately wet all RACM exposed during cutting or disjoining operations; and

(ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.

(3) When RACM is stripped from a facility component while it remains in place in the facility, adequately wet the RACM during the stripping operation.

(i) In renovation operations, wetting is not required if:

(A) The owner or operator has obtained prior written approval from the Administrator based on a written application that wetting to comply with this paragraph would unavoidably damage equipment or present a safety hazard; and

(B) The owner or operator uses of the following emission control methods:

(1) A local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and

operated in accordance with the requirements in § 61.152.

(2) A glove-bag system designed and operated to contain the particulate asbestos material produced by the stripping of the asbestos materials.

(3) Leak-tight wrapping to contain all RACM prior to dismantlement.

(ii) In renovation operations where wetting would result in equipment damage or a safety hazard, and the methods allowed in paragraph (c)(3)(i) of this section cannot be used, another method may be used after obtaining written approval from the Administrator based upon a determination that it is equivalent to wetting in controlling emissions or to the methods allowed in paragraph (c)(3)(i) of this section.

(iii) A copy of the Administrator's written approval shall be kept at the worksite and made available for inspection.

(4) After a facility component covered with, coated with, or containing RACM has been taken out of the facility as a unit or in sections pursuant to paragraph (c)(2) of this section, it shall be stripped or contained in leak-tight wrapping, except as described in paragraph (c)(5) of this section. If stripped, either:

(i) Adequately wet the RACM during stripping, or

(ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with paragraphs (c)(2), (3), and (4) of this section), the RACM is not required to be stripped if the following requirements are met:

(i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.

(ii) The component is encased in a leak-tight wrapping.

(iii) The leak-tight wrapping is labeled according to § 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.

(6) For all RACM, including material that has been removed or stripped:

(i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with § 61.150; and

(ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.

(iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections.

(iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(3) of this section need not be wetted.

(7) When the temperature at the point of wetting is below 0 °C (32 °F):

(i) The owner or operator need not comply with paragraph (c)(2)(i) and the wetting provisions of paragraph (c)(3) of this section.

(ii) The owner or operator shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.

(iii) During periods when wetting operations are suspended due to freezing temperatures, the owner or operator must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition or renovation site. The owner or operator shall retain the temperature records for at least 2 years.

(8) Effective 1 year after promulgation of this regulation, no RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative, such as a foreman or management-level person or

other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained on-site individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

(9) For facilities described in paragraph (a)(3) of this section, adequately wet the portion of the facility that contains RACM during the wrecking operation.

(10) If a facility is demolished by intentional burning, all RACM including Category I and Category II nonfriable ACM must be removed in accordance with the NESHAP before burning.

>> See accompanying hardcopy for illustration.

Part 61.145, page 88. <<

>> See accompanying hardcopy for illustration.

Part 61.145, page 89. <<

[55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.146 Standard for spraying.

The owner or operator of an operation in which asbestos-containing materials are spray applied shall comply with the following requirements:

(a) For spray-on application on buildings, structures, pipes, and conduits, do not use material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, on equipment and machinery, except as provided in paragraph (c) of this section:

(1) Notify the Administrator at least 20 days before beginning the spraying operation. Include the following information in the notice:

(i) Name and address of owner or operator.

(ii) Location of spraying operation.

(iii) Procedures to be followed to meet the requirements of this paragraph.

(2) Discharge no visible emissions to the outside air from spray-on application of the asbestos-containing material or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(c) The requirements of paragraphs (a) and (b) of this section do not apply to the spray-on application of materials where the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder during spraying and the materials are not friable after drying.

(d) Owners or operators of sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07 and 61.09.

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48424, Nov. 20, 1990]

§ 61.147 Standard for fabricating.

(a) Applicability. This section applies to the following fabricating

operations using commercial asbestos:

- (1) The fabrication of cement building products.
- (2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.
- (3) The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture, bulkheads, partitions, and ceilings for marine construction; and flow control devices for the molten metal industry.
- (b) Standard. Each owner or operator of any of the fabricating operations to which this section applies shall either:
 - (1) Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted or from any other fugitive sources; or
 - (2) Use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.
 - (3) Monitor each potential source of asbestos emissions from any part of the fabricating facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.
 - (4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:
 - (i) Maintenance schedule.
 - (ii) Recordkeeping plan.
 - (5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:
 - (i) Date and time of each inspection.
 - (ii) Presence or absence of visible emissions.
 - (iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.
 - (iv) Presence of dust deposits on clean side of fabric filters.
 - (v) Brief description of corrective actions taken, including date and time.
 - (vi) Daily hours of operation for each air cleaning device.
 - (6) Furnish upon request and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.
 - (7) Retain a copy of all monitoring and inspection records for at least 2 years.
 - (8) Submit quarterly a copy of the visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48424, Nov. 20, 1991]

§ 61.148 Standard for insulating materials.

No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this section do not apply to spray-applied insulating materials regulated under §61.146.

[55 FR 48424, Nov. 20, 1990]

§ 61.149 Standard for waste disposal for asbestos mills.

Each owner or operator of any source covered under the provisions

of § 61.142 shall:

- (a) Deposit all asbestos-containing waste material at a waste disposal site operated in accordance with the provisions of § 61.154; and
- (b) Discharge no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.150(a) or paragraph (c) of this section; and
- (c) Discharge no visible emissions to the outside air during the collection, processing, packaging, or on-site transporting of any asbestos-containing waste material, or use one of the disposal methods specified in paragraphs (c) (1) or (2) of this section, as follows:
 - (1) Use a wetting agent as follows:
 - (i) Adequately mix all asbestos-containing waste material with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, before depositing the material at a waste disposal site. Use the agent as recommended for the particular dust by the manufacturer of the agent.
 - (ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.
 - (iii) Wetting may be suspended when the ambient temperature at the waste disposal site is less than -9.5 °C (15 °F), as determined by an appropriate measurement method with an accuracy of $\pm 1^{\circ}\text{C}$ ($\pm 2^{\circ}\text{F}$). During periods when wetting operations are suspended, the temperature must be recorded at least at hourly intervals, and records must be retained for at least 2 years in a form suitable for inspection.
 - (2) Use an alternative emission control and waste treatment method that has received prior written approval by the Administrator. To obtain approval for an alternative method, a written application must be submitted to the Administrator demonstrating that the following criteria are met:
 - (i) The alternative method will control asbestos emissions equivalent to currently required methods.
 - (ii) The suitability of the alternativemethod for the intended application.
 - (iii) The alternative method will not violate other regulations.
 - (iv) The alternative method will not result in increased water pollution, land pollution, or occupational hazards.
- (d) When waste is transported by vehicle to a disposal site:
 - (1) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of the waste so that the signs are visible. The markings must:
 - (i) Be displayed in such a manner and location that a person can easily read the legend.
 - (ii) Conform to the requirements for 51 cm * 36 cm (20 in * 14 in) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
 - (iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend
DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG
DISEASE HAZARD
Authorized Personnel Only
Notation
2.5 cm (1 inch) Sans Serif, Gothic or Block

2.5 cm (1 inch) Sans Serif, Gothic or Block
1.9 cm(3/4 inch) Sans Serif, Gothic or Block
14 Point Gothic

Spacing between any two lines must be a least equal to the height of the upper of the two lines.

(2) For off-site disposal, provide a copy of the waste shipment record, described in paragraph (e)(1) of this section, to the disposal site owner or operator at the same time as the asbestos-containing waste material is delivered to the disposal site.

(e) For all asbestos-containing waste material transported off the facility site:

(1) Maintain asbestos waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

- (i) The name, address, and telephone number of the waste generator.
- (ii) The name and address of the local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.
- (iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).
- (iv) The name and telephone number of the disposal site operator.
- (v) The name and physical site location of the disposal site.
- (vi) The date transported.
- (vii) The name, address, and telephone number of the transporter(s).
- (viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(3) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

- (i) A copy of the waste shipment record for which a confirmation of delivery was not received, and
- (ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(4) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(f) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

>> See accompanying hardcopy for illustration.
Part 61.149, page 93. <<

>> See accompanying hardcopy for illustration.
Part 61.149, page 94. <<

>> See accompanying hardcopy for illustration.
Part 61.150, page 95. <<

§ 61.150 Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

Each owner or operator of any source covered under the provisions of §§ 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

(a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a) (1) through (4) of this section.

(1) Adequately wet asbestos-containing waste material as follows:

- (i) Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and
- (ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and
- (iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and

(iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.

(v) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.

(2) Process asbestos-containing waste material into nonfriable forms as follows:

- (i) Form all asbestos-containing waste material into nonfriable pellets or other shapes;
- (ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) For facilities demolished where the RACM is not removed prior to demolition according to §§ 61.145(c)(1) (i), (ii), (iii), and (iv) or for facilities demolished according to § 61.145(c)(9), adequately wet asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.

(4) Use an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in § 61.149(c)(2).

(5) As applied to demolition and renovation, the requirements of paragraph (a) of this section do not apply to Category I nonfriable ACM waste and Category II nonfriable ACM waste that did not become crumbled, pulverized, or reduced to powder.

(b) All asbestos-containing waste material shall be deposited as soon as is practical by the waste generator at:

- (1) A waste disposal site operated in accordance with the provisions of § 61.154, or
- (2) An EPA-approved site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the provisions of § 61.155.

(3) The requirements of paragraph (b) of this section do not apply to Category I nonfriable ACM that is not RACM.

(c) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of §§

recovery and analysis are the same as for Method 6, Sections 3.2 and 3.3, respectively.

4. Preparation of Collection Train.

Measure 75 ml. of 80 percent IPA into the first impinger and 75 ml. of 10 percent hydrogen peroxide into each of the remaining impingers. Into one of the absorption tubes place a one-hole stopper and glass wool plug in the end and add 150 to 200 grams of drierite to the tube. As the drierite is added shake the tube to evenly pack the absorbent. Cap the tube with another plug of glass wool and a one-hole stopper (use this end as the inlet for even flow). The ascarite tube is filled in a similar manner, using 150-175 grams of ascarite. Clean and dry the outside of the ascarite tube and weigh (at room temperature, 20 degrees C) to the nearest 0.1 gram. Record this initial mass as Mai. Assemble the train as shown in Figure 1. Adjust the probe heater to a temperature sufficient to prevent water condensation.

4.1.1 Sampling. The bubbler shall be operated continuously at a sampling rate sufficient to collect 70-80 liters of source effluent during the desired sampling period. For example, a sampling rate of 0.05 liter/min. is sufficient for a 24-hour average and 0.40 liter per minute for a 3-hour average. The sampling rate shall not, however, exceed 1.0 liter/min.

4.2 Sample Recovery.

4.2.1 Peroxide Solution. Pour the contents of the second and third impingers into a leak-free polyethylene bottle for storage or shipping. Rinse the two impingers and connecting tubing with deionized distilled water, and add the washings to the same storage container.

4.2.2 Ascarite Tube. Allow the ascarite tube to equilibrate with room temperature (about 10 minutes), clean and dry the outside, and weigh to the nearest 0.1g in the same manner as in Section 4.1.1. Record this final mass (Maf) and discard the used ascarite.

4.3 Sample Analysis. The sample analysis procedure for SO₂ is the same as specified in Method 6, Section 4.3.

5. Calculations.

5.1 SO₂ mass collected.

$$MSO_2 = 32.03 (V_t - V_{tb}) N V_{soln} V_a$$

Equation A1-1

Where:

MSO₂=mass of SO₂ collected, mg

V_t=volume of barium perchlorate titrant used for the sample, ml (average of replicate titrations).

V_{tb}=volume of barium perchlorate titrant used for the blank, ml.

N=normality of barium perchlorate titrant, milliequivalents/ml.

V_{soln}=total volume of solution in which the sulfur dioxide sample is contained, ml.

V_a=volume of sample aliquot titrated, ml.

5.2 Sulfur dioxide emission rate

$$ESO_2 = F_c (K_2) [MSO_2 / (Maf - Mai)]$$

Equation A1-2

Where:

Mai=initial mass of ascarite, grams.

Maf=final mass of ascarite, grams.

ESO₂=Emission rate of SO₂, ng/J (lb/MMBtu).

F_c=Carbon F factor for the fuel burned, M3/J, from Method 19 (Ref. 2)

K₂=1.829X10¹⁹

>> See accompanying hardcopy for illustration.
Part 69, page 268. Figure 1. <<

[46 FR 55980, Nov. 13, 1981]

61.149(d)(1) (i), (ii), and (iii).

(d) For all asbestos-containing waste material transported off the facility site:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

- (i) The name, address, and telephone number of the waste generator.
- (ii) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
- (iii) The approximate quantity in cubic meters (cubic yards).
- (iv) The name and telephone number of the disposal site operator.
- (v) The name and physical site location of the disposal site.
- (vi) The date transported.
- (vii) The name, address, and telephone number of the transporter(s).
- (viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) Provide a copy of the waste shipment record, described in paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material is delivered to the disposal site.

(3) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(4) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter.

Include in the report the following information:

- (i) A copy of the waste shipment record for which a confirmation of delivery was not received, and
- (ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(5) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(e) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

[55 FR 48429, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under §§ 61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:

(a) Comply with one of the following:

- (1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or
- (2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or
- (3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or

(4) For inactive waste disposal sites for asbestos tailings, a resinous

or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a) (1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section.

(1) Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:

- (i) Be posted in such a manner and location that a person can easily read the legend; and
- (ii) Conform to the requirements for 51 cm*36 cm (20"*14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
- (iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.

(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.

(c) The owner or operator may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of paragraph (a) or (b) of this section.

(d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used for the disposal of asbestos-containing waste material;

(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in § 61.154(f) have been filed with the Administrator; and

(3) The site is subject to 40 CFR part 61, subpart M.

[49 FR 13661, Apr. 5, 1984, as amended at 53 FR 36972, Sept. 23, 1988. Redesignated and amended at 55 FR 48429, Nov. 20, 1990]

§ 61.152 Air-cleaning.

(a) The owner or operator who uses air cleaning, as specified in §§ 61.142(a), 61.144(b)(2), 61.145(c)(3)(i)(B)(1), 61.145(c)(4)(ii), 61.145(c)(11)(i), 61.146(b)(2), 61.147(b)(2), 61.149(b), 61.149(c)(1)(ii), 61.150(a)(1)(ii), 61.150(a)(2)(ii), and 61.155(e) shall:

(1) Use fabric filter collection devices, except as noted in paragraph (b) of this section, doing all of the following:

(i) Ensuring that the airflow permeability, as determined by ASTM Method D737-75, does not exceed $9 \text{ m}^3/\text{min}/\text{m}^2$ ($30 \text{ ft}^3/\text{min}/\text{ft}^2$) for woven fabrics or $11 \text{ m}^3/\text{min}/\text{m}^2$ ($35 \text{ ft}^3/\text{min}/\text{ft}^2$) for felted fabrics, except that $12 \text{ m}^3/\text{min}/\text{m}^2$ ($40 \text{ ft}^3/\text{min}/\text{ft}^2$) for woven and $14 \text{ m}^3/\text{min}/\text{m}^2$ ($45 \text{ ft}^3/\text{min}/\text{ft}^2$) for felted fabrics is allowed for filtering air from asbestos ore dryers; and

(ii) Ensuring that felted fabric weighs at least 475 grams per square meter (14 ounces per square yard) and is at least 1.6 millimeters (one-sixteenth inch) thick throughout; and

(iii) Avoiding the use of synthetic fabrics that contain fill yarn other than that which is spun.

(2) Properly install, use, operate, and maintain all air-cleaning equipment authorized by this section. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

(3) For fabric filter collection devices installed after January 10, 1989, provide for easy inspection for faulty bags.

(b) There are the following exceptions to paragraph (a)(1):

(1) After January 10, 1989, if the use of fabric creates a fire or explosion hazard, or the Administrator determines that a fabric filter is not feasible, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure).

(2) Use a HEPA filter that is certified to be at least 99.97 percent efficient for 0.3 micron particles.

(3) The Administrator may authorize the use of filtering equipment other than described in paragraphs (a)(1) and (b)(1) and (2) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

[49 FR 13661, Apr. 5, 1984; 49 FR 25453, June 21, 1984, as amended at 51 FR 8199, Mar. 10, 1986. Redesignated and amended at 55 FR 48430, Nov. 20, 1990]

§ 61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of sources subject to §§ 61.143, 61.145, 61.146, and 61.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of a new source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator within 90 days of the effective date of this subpart unless the owner or operator of the existing source has previously provided this information to the Administrator. Any changes in the information provided by any existing source shall be provided to the Administrator, postmarked or delivered, within 30 days after the change.

(1) A description of the emission control equipment used for each process; and

(i) If the fabric device uses a woven fabric, the airflow permeability in $\text{m}^3/\text{min}/\text{m}^2$ and; if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m^2 , the minimum thickness in inches, and the airflow permeability in $\text{m}^3/\text{min}/\text{m}^2$.

(2) If a fabric filter device is used to control emissions,

(i) The airflow permeability in $\text{m}^3/\text{min}/\text{m}^2$ ($\text{ft}^3/\text{min}/\text{ft}^2$) if the fabric filter device uses a woven fabric, and, if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m² (oz/yd²), the minimum thickness in millimeters (inches), and the airflow permeability in m³/min/m² (ft³/min/ft²).

(3) If a HEPA filter is used to control emissions, the certified efficiency.

(4) For sources subject to §§ 61.149 and 61.150:

(i) A brief description of each process that generates asbestos-containing waste material; and

(ii) The average volume of asbestos-containing waste material disposed of, measured in m³/day (yd³/day); and

(iii) The emission control methods used in all stages of waste disposal; and

(iv) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

(5) For sources subject to §§ 61.151 and 61.154:

(i) A brief description of the site; and

(ii) The method or methods used to comply with the standard, or alternative procedures to be used.

(b) The information required by paragraph (a) of this section must accompany the information required by § 61.10. Active waste disposal sites subject to § 61.154 shall also comply with this provision. Roadways, demolition and renovation, spraying, and insulating materials are exempted from the requirements of § 61.10(a). The information described in this section must be reported using the format of appendix A of this part as a guide.

(Sec. 114. Clean Air Act as amended (42 U.S.C. 7414))

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48430, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from a source covered under §§ 61.149, 61.150, or 61.155 shall meet the requirements of this section:

(a) Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph (c) or (d) of this section must be met.

(b) Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph (c)(1) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51 cm * 36 cm (20" * 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, use an alternative emissions control method that has received prior written approval by the Administrator according to the procedures described in §61.149(c)(2).

(e) For all asbestos-containing waste material received, the owner or operator of the active waste disposal site shall:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name, address, and telephone number of the transporter(s).

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.

(v) The date of the receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

(4) Retain a copy of all records and reports required by this paragraph for at least 2 years.

(f) Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

(g) Upon closure, comply with all the provisions of § 61.151.

(h) Submit to the Administrator, upon closure of the facility, a copy

of records of asbestos waste disposal locations and quantities.

(i) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(j) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(Secs. 112 and 301(a) of the Clean Air Act as amended (42 U.S.C. 7412, 7601(a))

[49 FR 13661, Apr. 5, 1990. Redesignated and amended at 55 FR 48431, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

§ 61.155 Standard for operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material.

Each owner or operator of an operation that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material shall:

(a) Obtain the prior written approval of the Administrator to construct the facility. To obtain approval, the owner or operator shall provide the Administrator with the following information:

(1) Application to construct pursuant to §61.07.

(2) In addition to the information requirements of § 61.07(b)(3), a

(i) Description of waste feed handling and temporary storage.

(ii) Description of process operating conditions.

(iii) Description of the handling and temporary storage of the end product.

(iv) Description of the protocol to be followed when analyzing output materials by transmission electron microscopy.

(3) Performance test protocol, including provisions for obtaining information required under paragraph (b) of this section.

(4) The Administrator may require that a demonstration of the process be performed prior to approval of the application to construct.

(b) Conduct a start-up performance test. Test results shall include:

(1) A detailed description of the types and quantities of nonasbestos material, RACM, and asbestos-containing waste material processed, e.g., asbestos cement products, friable asbestos insulation, plaster, wood, plastic, wire, etc. Test feed is to include the full range of materials that will be encountered in actual operation of the process.

(2) Results of analyses, using polarized light microscopy, that document the asbestos content of the wastes processed.

(3) Results of analyses, using transmission electron microscopy, that document that the output materials are free of asbestos. Samples for analysis are to be collected as 8-hour composite samples (one 200-gram (7-ounce) sample per hour), beginning with the initial introduction of RACM or asbestos-containing waste material and continuing until the end of the performance test.

(4) A description of operating parameters, such as temperature and residence time, defining the full range over which the process is expected to operate to produce nonasbestos (asbestos-free) materials. Specify the limits for each operating parameter within which the process will produce nonasbestos (asbestos-free) materials.

(5) The length of the test.

(c) During the initial 90 days of operation,

(1) Continuously monitor and log the operating parameters identified during start-up performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output material.

(2) Monitor input materials to ensure that they are consistent with the test feed materials described during start-up performance tests in paragraph (b)(1) of this section.

(3) Collect and analyze samples, taken as 10-day composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than 10 days. Transmission electron microscopy (TEM) shall be used to analyze the output material for the presence of asbestos. During the initial 90-day period, all output materials must be stored on-site until analysis shows the material to be asbestos-free or disposed of as asbestos-containing waste material according to § 61.150.

(d) After the initial 90 days of operation,

(1) Continuously monitor and record the operating parameters identified during start-up performance testing and any subsequent performance testing. Any output produced during a period of deviation from the range of operating conditions established to ensure the production of nonasbestos (asbestos-free) output materials shall be:

(i) Disposed of as asbestos-containing waste material according to § 61.150, or

(ii) Recycled as waste feed during process operation within the established range of operating conditions, or

(iii) Stored temporarily on-site in a leak-tight container until analyzed for asbestos content. Any product material that is not asbestos-free shall be either disposed of as asbestos-containing waste material or recycled as waste feed to the process.

(2) Collect and analyze monthly composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of the output material. Transmission electron microscopy shall be used to analyze the output material for the presence of asbestos.

(e) Discharge no visible emissions to the outside air from any part of the operation, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(f) Maintain records on-site and include the following information:

(1) Results of start-up performance testing and all subsequent performance testing, including operating parameters, feed characteristic, and analyses of output materials.

(2) Results of the composite analyses required during the initial 90 days of operation under § 61.155(c).

(3) Results of the monthly composite analyses required under § 61.155(d).

(4) Results of continuous monitoring and logs of process operating parameters required under § 61.155 (c) and (d).

(5) The information on waste shipments received as required in § 61.154(e).

(6) For output materials where no analyses were performed to determine the presence of asbestos, record the name and location of the purchaser or disposal site to which the output materials were sold or deposited, and the date of sale or disposal.

(7) Retain records required by paragraph (f) of this section for at least 2 years.

(g) Submit the following reports to the Administrator:

(1) A report for each analysis of product composite samples performed during the initial 90 days of operation.

(2) A quarterly report, including the following information concerning activities during each consecutive 3-month period:

(i) Results of analyses of monthly product composite samples.

(ii) A description of any deviation from the operating parameters established during performance testing, the duration of the deviation, and steps taken to correct the deviation.

(iii) Disposition of any product produced during a period of deviation, including whether it was recycled, disposed of as asbestos-containing waste material, or stored temporarily on-site until analyzed for asbestos content.

(iv) The information on waste disposal activities as required in § 61.154(f).

(h) Nonasbestos (asbestos-free) output material is not subject to any of the provisions of this subpart. Output materials in which asbestos is detected, or output materials produced when the operating parameters deviated from those established during the start-up performance testing, unless shown by TEM analysis to be asbestos-free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to §§61.150 and 61.154 or reprocessed while all of the established operating parameters are being met.

[55 FR 48431, Nov. 20, 1990]

§ 61.156 Cross-reference to other asbestos regulations.

In addition to this subpart, the regulations referenced in Table 1 also apply to asbestos and may be applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155 of this subpart. These cross-references are presented for the reader's information and to promote compliance with the cited regulations.

Table 1-Cross-reference to Other Asbestos Regulations

Agency	CFR citation	Comment
EPA	40 CFR 763, Subpart E	Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States.
EPA	40 CFR 763, Subpart F	Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures.
EPA	40 CFR 427	Effluent standards for asbestos manufacturing source categories.
EPA	40 CFR 763, Subpart G	Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.
OSHA	29 CFR 1910.1001	Worker protection measures-engineering controls, worker training, labeling, respiratory protection, bagging of waste, 0.2 f/ cc permissible exposure level.
OSHA	29 CFR 1926.58	Worker protection measures for all construction work involving asbestos, including demolition and renovation-work practices, worker training, bagging of waste, 0.2 f/cc permissible exposure level.
MSHA	30 CFR 56, Subpart D	Specifies exposures limits, engineering controls, and respiratory protection measures for workers in surface mines.
MSHA	30 CFR 57, Subpart D	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines.
DOT	49 CFR 171 and 172	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.

[55 FR 48432, Nov. 20, 1990]

§ 61.157 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities that will not be delegated to States:

- (1) Section 61.149(c)(2)
- (2) Section 61.150(a)(4)
- (3) Section 61.151(c)
- (4) Section 61.152(b)(3)
- (5) Section 61.154(d)
- (6) Section 61.155(a).

[55 FR 48433, Nov. 20, 1990]

Appendix A to Subpart M-Interpretive Rule Governing Roof Removal Operations

I. Applicability of the Asbestos NESHAP

1.1. Asbestos-containing material (ACM) is material containing more than one percent asbestos as determined using the methods specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy. The NESHAP classifies ACM as either "friable" or "nonfriable". Friable ACM is ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable ACM is ACM that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

1.2. Nonfriable ACM is further classified as either Category I ACM or Category II ACM. Category I ACM and Category II ACM are distinguished from each other by their potential to release fibers when damaged. Category I ACM includes asbestos-containing gaskets, packings, resilient floor coverings, resilient floor covering mastic, and asphalt roofing products containing more than one percent asbestos. Asphalt roofing products which may contain asbestos include built-up roofing; asphalt-containing single ply membrane systems; asphalt shingles; asphalt-containing underlayment felts; asphalt-containing roof coatings and mastics; and asphalt-containing base flashings. ACM roofing products that use

other bituminous or resinous binders (such as coal tars or pitches) are also considered to be Category I ACM. Category II ACM includes all other nonfriable ACM, for example, asbestos-cement (A/C) shingles, A/C tiles, and transite boards or panels containing more than one percent asbestos. Generally speaking, Category II ACM is more likely to become friable when damaged than is Category I ACM. The applicability of the NESHAP to Category I and II ACM depends on: (1) the condition of the material at the time of demolition or renovation, (2) the nature of the operation to which the material will be subjected, (3) the amount of ACM involved.

1.3. Asbestos-containing material regulated under the NESHAP is referred to as "regulated asbestos-containing material" (RACM). RACM is defined in § 61.141 of the NESHAP and includes: (1) friable asbestos-containing material; (2) Category I nonfriable ACM that has become friable; (3) Category I nonfriable ACM that has been or will be sanded, ground, cut, or abraded; or (4) Category II nonfriable ACM that has already been or is likely to become crumbled, pulverized, or reduced to powder. If the coverage threshold for RACM is met or exceeded in a renovation or demolition operation, then all friable ACM in the operation, and in certain situations, nonfriable ACM in the operation, are subject to the NESHAP.

A. Threshold Amounts of Asbestos-Containing Roofing Material

1.A.1. The NESHAP does not cover roofing projects on single family homes or on residential buildings containing four or fewer dwelling units. 40 CFR 61.141. For other roofing renovation projects, if the total asbestos-containing roof area undergoing renovation is less than 160 ft², the NESHAP does not apply, regardless of the removal method to be used, the type of material (Category I or II), or its condition (friable versus nonfriable). 40 CFR 61.145(a)(4). However, EPA would recommend the use of methods that damage asbestos-containing roofing material as little as possible. EPA has determined that where a rotating blade (RB) roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, the removal of 5580 ft² of that material will create 160 ft² of RACM. For the purposes of this interpretive rule, "RB roof cutter" means an engine-powered roof cutting machine with one or more rotating cutting blades the edges of which are blunt. (Equipment with blades having sharp or tapered

edges, and/or which does not use a rotating blade, is used for "slicing" rather than "cutting" the roofing material; such equipment is not included in the term "RB roof cutter".) Therefore, it is EPA's interpretation that when an RB roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, any project that is 5580 ft² or greater is subject to the NESHAP; conversely, it is EPA's interpretation that when an RB roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material in a roof removal project that is less than 5580 ft², the project is not subject to the NESHAP, except that notification is always required for demolitions. EPA further construes the NESHAP to mean that if slicing or other methods that do not sand, grind, cut or abrade will be used on Category I nonfriable ACM, the NESHAP does not apply, regardless of the area of roof to be removed.

1.A.2. For asbestos cement (A/C) shingles (or other Category II roofing material), if the area of the roofing material to be removed is at least 160 ft² and the removal methods will crumble, pulverize, reduce to powder, or contaminate with RACM (from other ACM that has been crumbled, pulverized or reduced to powder) 160 ft² or more of such roofing material, the removal is subject to the NESHAP. Conversely, if the area of the A/C shingles (or other Category II roofing materials) to be removed is less than 160 ft², the removal is not subject to the NESHAP regardless of the removal method used, except that notification is always required for demolitions. 40 CFR 61.145(a). However, EPA would recommend the use of methods that damage asbestos-containing roofing material as little as possible. If A/C shingles (or other Category II roofing materials) are removed without +160 ft² or more of such roofing material being crumbled, pulverized, reduced to powder, or contaminated with RACM (from other ACM that has been crumbled, pulverized or reduced to powder), the operation is not subject to the NESHAP, even where the total area of the roofing material to be removed exceeds 160 ft²; provided, however, that if the renovation includes other operations involving RACM, the roof removal operation is covered if the total area of RACM from all renovation activities exceeds 160 ft². See the definition of regulated asbestos-containing material (RACM), 40 CFR 61.141.

1.A.3. Only roofing material that meets the definition of ACM can qualify as RACM subject to the NESHAP. Therefore, to determine if a removal operation that meets or exceeds the coverage threshold is subject to the NESHAP, any suspect roofing material (i.e. roofing material that may be ACM) should be tested for asbestos. If any such roofing material contains more than one percent asbestos and if the removal operation is covered by the NESHAP, then EPA must be notified and the work practices in § 61.145(c) must be followed. In EPA's view, if a removal operation involves at least the threshold level of suspect material, a roofing contractor may choose not to test for asbestos if the contractor follows the notification and work practice requirements of the NESHAP.

B. A/C Shingle Removal (Category II ACM Removal)

1.B.1. A/C shingles, which are Category II nonfriable ACM, become regulated ACM if the material has a high probability of becoming or has become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations. 40 CFR 61.141. However, merely breaking an A/C shingle (or any other category II ACM) that is not friable may not necessarily cause the material to become RACM. A/C shingles are typically nailed to buildings on which they are attached. EPA believes that the extent of breakage that will normally result from carefully removing A/C shingles and lowering the shingles to the ground will not result in crumbling, pulverizing or reducing the shingles to powder. Conversely, the extent of breakage that will normally occur if the A/C shingles are dropped from a building or scraped off of a building with heavy machinery would cause the shingles to become RACM. EPA therefore construes the NESHAP to mean that the removal of A/C shingles that are not friable, using methods that do not crumble, pulverize, or reduce the

A/C shingles to powder (such as pry bars, spud bars and shovels to carefully pry the material), is not subject to the NESHAP provided that the A/C shingles are properly handled during and after removal, as discussed in this paragraph and the asbestos NESHAP. This interpretation also applies to other Category II nonfriable asbestos-containing roofing materials.

C. Cutting vs. Slicing and Manual Methods for Removal of Category I ACM

1.C.1. Because of damage to the roofing material, and the potential for fiber release, roof removal operations using rotating blade (RB) roof cutters or other equipment that sand, grind, cut or abrade the roof material are subject to the NESHAP. As EPA interprets the NESHAP, the use of certain manual methods (using equipment such as axes, hatchets, or knives, spud bars, pry bars, and shovels, but not saws) or methods that slice, shear, or punch (using equipment such as a power slicer or power plow) does not constitute "cutting, sanding, grinding or abrading." This is because these methods do not destroy the structural matrix or integrity of the material such that the material is crumbled, pulverized or reduced to powder. Hence, it is EPA's interpretation that when such methods are used, assuming the roof material is not friable, the removal operation is not subject to the regulation.

1.C.2. Power removers or power tear-off machines are typically used to pry the roofing material up from the deck after the roof membrane has been cut. It is EPA's interpretation that when these machines are used to pry roofing material up, their use is not regulated by the NESHAP.

1.C.3. As noted previously, the NESHAP only applies to the removal of asbestos-containing roofing materials. Thus, the NESHAP does not apply to the use of RB cutters to remove non-asbestos built up roofing (BUR). On roofs containing some asbestos-containing and some non-asbestos containing materials, coverage under the NESHAP depends on the methods used to remove each type of material in addition to other coverage thresholds specified above. For example, it is not uncommon for existing roofs to be made of non-asbestos BUR and base flashings that do contain asbestos. In that situation, EPA construes the NESHAP to be inapplicable to the removal of the non-asbestos BUR using an RB cutter so long as the RB cutter is not used to cut 5580 ft² or more of the asbestos-containing base flashing or other asbestos-containing material into sections. In addition, the use of methods that slice, shear, punch or pry could then be used to remove the asbestos flashings and not trigger coverage under the NESHAP.

II. Notification

2.1. Notification for a demolition is always required under the NESHAP. However, EPA believes that few roof removal jobs constitute "demolitions" as defined in the NESHAP (§ 61.141). In particular, it is EPA's view that the removal of roofing systems (i.e., the roof membrane, insulation, surfacing, coatings, flashings, mastic, shingles, and felt underlayment), when such removal is not a part of a demolition project, constitutes a "renovation" under the NESHAP. If the operation is a renovation, and Category I roofing material is being removed using either manual methods or slicing, notification is not required by the NESHAP. If Category II material is not friable and will be removed without crumbling, pulverizing, or reducing it to powder, no notification is required. Also, if the renovation involves less than the threshold area for applicability as discussed above, then no notification is required. However, if a roof removal meets the applicability and threshold requirements under the NESHAP, then EPA (or the delegated agency) must be notified in advance of the removal in accordance with the requirements of § 61.145(b), as follows:

• Notification must be given in writing at least 10 working days in advance and must include the information in § 61.145(b)(4), except for emergency renovations as discussed below. • The notice must be updated as necessary, including, for example, when the amount of asbestos-containing roofing material reported changes by 20 percent or more. • EPA must be notified if the start date of the roof removal

changes. If the start date of a roof removal project is changed to an earlier date, EPA must be provided with a written notice of the new start date at least 10 working days in advance. If the start date changes to a later date, EPA must be notified by telephone as soon as possible before the original start date and a written notice must be sent as soon as possible.

• For emergency renovations (as defined in § 61.141), where work must begin immediately to avoid safety or public health hazards, equipment damage, or unreasonable financial burden, the notification must be postmarked or delivered to EPA as soon as possible, but no later than the following work day.

III. Emission Control Practices

A. Requirements to Adequately Wet and Discharge No Visible Emission

3.A.1. The principal controls contained in the NESHAP for removal operations include requirements that the affected material be adequately wetted, and that asbestos waste be handled, collected, and disposed of properly. The requirements for disposal of waste materials are discussed separately in section IV below. The emission control requirements discussed in this section III apply only to roof removal operations that are covered by the NESHAP as set forth in Section I above.

3.A.2. For any operation subject to the NESHAP, the regulation (§§ 61.145(c)(2)(i), (3), (6)(i)) requires that RACM be adequately wet (as defined in § 61.141) during the operation that damages or disturbs the asbestos material until collected for disposal.

3.A.3. When using an RB roof cutter (or any other method that sands, grinds, cuts or abrades the roofing material) to remove Category I asbestos-containing roofing material, the emission control requirements of § 61.145(c) apply as discussed in Section I above. EPA will consider a roof removal project to be in compliance with the "adequately wet" and "discharge no visible emission" requirements of the NESHAP if the RB roof cutter is equipped and operated with the following: (1) a blade guard that completely encloses the blade and extends down close to the roof surface; and (2) a device for spraying a fine mist of water inside the blade guard, and which device is in operation during the cutting of the roof.

B. Exemptions From Wetting Requirements

3.B.1. The NESHAP provides that, in certain instances, wetting may not be required during the cutting of Category I asbestos roofing material with an RB roof cutter. If EPA determines in accordance with § 61.145(c)(3)(i), that wetting will unavoidably damage the building, equipment inside the building, or will present a safety hazard while stripping the ACM from a facility component that remains in place, the roof removal operation will be exempted from the requirement to wet during cutting. EPA must have sufficient written information on which to base such a decision. Before proceeding with a dry removal, the contractor must have received EPA's written approval. Such exemptions will be made on a case-by-case basis.

3.B.2. It is EPA's view that, in most instances, exemptions from the wetting requirements are not necessary. Where EPA grants an exemption from wetting because of the potential for damage to the building, damage to equipment within the building or a safety hazard, the NESHAP specifies alternative control methods (§61.145(c)(3)(i)(B)). Alternative control methods include (a) the use of local exhaust ventilation systems that capture the dust, and do not produce visible emissions, or (b) methods that are designed and operated in accordance with the requirements of §61.152, or (c) other methods that have received the written approval of EPA. EPA will consider an alternative emission control method in compliance with the NESHAP if the method has received written approval from EPA and the method is being implemented consistent with the approved procedures (§ 61.145(c)(3)(ii) or §61.152(b)(3)).

3.B.3. An exemption from wetting is also allowed when the air or roof surface temperature at the point of wetting is below freezing, as specified in § 61.145(c)(7). If freezing temperatures are indicated as the reason for not wetting, records must be kept of the

temperature at the beginning, middle and end of the day on which wetting is not performed and the records of temperature must be retained for at least 2 years. 42 CFR §61.145(c)(7)(iii). It is EPA's interpretation that in such cases, no written application to, or written approval by the Administrator is needed for using emission control methods listed in § 61.145(c)(3)(i)(B), or alternative emission control methods that have been previously approved by the Administrator. However, such written application or approval is required for alternative emission control methods that have not been previously approved. Any dust and debris collected from cutting must still be kept wet and placed in containers. All of the other requirements for notification and waste disposal would continue to apply as described elsewhere in this notice and the Asbestos NESHAP.

C. Waste Collection and Handling

3.C.1. It is EPA's interpretation that waste resulting from slicing and other methods that do not cut, grind, sand or abrade Category I nonfriable asbestos-containing roofing material is not subject to the NESHAP and can be disposed of as nonasbestos waste. EPA further construes the NESHAP to provide that if Category II roofing material (such as A/C shingles) is removed and disposed of without crumbling, pulverizing, or reducing it to powder, the waste from the removal is not subject to the NESHAP waste disposal requirements. EPA also interprets the NESHAP to be inapplicable to waste resulting from roof removal operations that do not meet or exceed the coverage thresholds described in section I above. Of course, other State, local, or Federal regulations may apply.

3.C.2. It is EPA's interpretation that when an RB roof cutter, or other method that similarly damages the roofing material, is used to cut Category I asbestos containing roofing material, the damaged material from the cut (the sawdust or debris) is considered asbestos containing waste subject to §61.150 of the NESHAP, provided the coverage thresholds discussed above in section I are met or exceeded. This sawdust or debris must be disposed of at a disposal site operated in accordance with the NESHAP. It is also EPA's interpretation of the NESHAP that if the remainder of the roof is free of the sawdust and debris generated by the cutting, or if such sawdust or debris is collected as discussed below in paragraphs 3.C.3, 3.C.4, 3.C.5 and 3.C.6, the remainder of the roof can be disposed of as nonasbestos waste because it is considered to be Category I nonfriable material (as long as the remainder of the roof is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material). EPA further believes that if the roof is not cleaned of such sawdust or debris, i.e., it is contaminated, then it must be treated as asbestos-containing waste material and be handled in accordance with § 61.150.

3.C.3. In order to be in compliance with the NESHAP while using an RB roof cutter (or device that similarly damages the roofing material) to cut Category I asbestos containing roofing material, the dust and debris resulting from the cutting of the roof should be collected as soon as possible after the cutting operation, and kept wet until collected and placed in leak-tight containers. EPA believes that where the blade guard completely encloses the blade and extends down close to the roof surface and is equipped with a device for spraying a fine mist of water inside the blade guard, and the spraying device is in operation during the cutting, most of the dust and debris from cutting will be confined along the cut. The most efficient methods to collect the dust and debris from cutting are to immediately collect or vacuum up the damaged material where it lies along the cut using a filtered vacuum cleaner or debris collector that meets the requirements of 40 CFR 61.152 to clean up as much of the debris as possible, or to gently sweep up the bulk of the debris, and then use a filtered vacuum cleaner that meets the requirements of 40 CFR 61.152 to clean up as much of the remainder of the debris as possible. On smooth surfaced roofs (nonaggregate roofs), sweeping up the debris and then wet wiping the surface may be done in place of using a filtered vacuum cleaner. It is EPA's view that if these decontamination procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos

waste. Additionally, it is EPA's view that where such decontamination procedures are followed, if the remaining portions of the roof are non-asbestos or Category I nonfriable asbestos material, and if the remaining portions are removed using removal methods that slice, shear, punch or pry, as discussed in section 1.C above, then the remaining portions do not have to be collected and disposed of as asbestos waste and the NESHAP's no visible emissions and adequately wet requirements are not applicable to the removal of the remaining portions. In EPA's interpretation, the failure of a filtered vacuum cleaner or debris collector to collect larger chunks or pieces of damaged roofing material created by the RB roof cutter does not require the remaining roofing material to be handled and disposed of as asbestos waste, provided that such visible chunks or pieces of roofing material are collected (e.g. by gentle sweeping) and disposed of as asbestos waste. Other methods of decontamination may not be adequate, and should be approved by the local delegated agency.

3.C.4. In EPA's interpretation, if the debris from the cutting is not collected immediately, it will be necessary to lightly mist the dust or debris, until it is collected, as discussed above, and placed in containers. The dust or debris should be lightly misted frequently enough to prevent the material from drying, and to prevent airborne emissions, prior to collection as described above. It is EPA's interpretation of the NESHAP that if these procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos waste, as long as the remaining roof material is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material.

3.C.5. It is EPA's interpretation that, provided the roofing material is not friable prior to the cutting operation, and provided the roofing material has not been made friable by the cutting operation, the appearance of rough, jagged or damaged edges on the remaining roofing material, due to the use of an RB roof cutter, does not require that such remaining roofing material be handled and disposed of as asbestos waste. In addition, it is also EPA's interpretation that if the sawdust or debris generated by the use of an RB roof cutter has been collected as discussed in paragraphs 3.C.3, 3.C.4 and 3.C.6, the presence of dust along the edge of the remaining roof material does not render such material "friable" for purposes of this interpretive rule or the NESHAP, provided the roofing material is not friable prior to the cutting operation, and provided that the remaining roofing material near the cutline has not been made friable by the cutting operation. Where roofing material near the cutline has been made friable by the use of the RB cutter (i.e. where such remaining roofing material near the cutline can be crumbled, pulverized or reduced to powder using hand pressure), it is EPA's interpretation that the use of an encapsulant will ensure that such friable material need not be treated or disposed of as asbestos containing waste material. The encapsulant may be applied to the friable material after the roofing material has been collected into stacks for subsequent disposal as nonasbestos waste. It is EPA's view that if the encapsulation procedure set forth in this paragraph is followed in operations where roofing material near the cutline has been rendered friable by the use of an RB roof cutter, and if the decontamination procedures set forth in paragraph 3.C.3 have been followed, the NESHAP's no visible emissions and adequately wet requirements would be met for the removal, handling and disposal of the remaining roofing material.

3.C.6. As one way to comply with the NESHAP, the dust and debris from cutting can be placed in leak-tight containers, such as plastic bags, and the containers labeled using warning labels required by OSHA (29 CFR 1926.58). In addition, the containers must have labels that identify the waste generator (such as the name of the roofing contractor, abatement contractor, and/or building owner or operator) and the location of the site at which the waste was generated.

IV. Waste Disposal

A. Disposal Requirements

4.A.1. Section 61.150(b) requires that, as soon as is practical, all collected dust and debris from cutting as well as any contaminated roofing squares, must be taken to a landfill that is operated in accordance with § 61.154 or to an EPA-approved site that converts asbestos waste to nonasbestos material in accordance with § 61.155. During the loading and unloading of affected waste, asbestos warning signs must be affixed to the vehicles.

B. Waste Shipment Record

4.B.1. For each load of asbestos waste that is regulated under the NESHAP, a waste shipment record (WSR) must be maintained in accordance with § 61.150(d). Information that must be maintained for each waste load includes the following:

- Name, address, and telephone number of the waste generator
- Name and address of the local, State, or EPA regional office responsible for administering the asbestos NESHAP program
- Quantity of waste in cubic meters (or cubic yards)
- Name and telephone number of the disposal site operator
- Name and physical site location of the disposal site
- Date transported
- Name, address, and telephone number of the transporter(s)
- Certification that the contents meet all government regulations for transport by highways.

4.B.2. The waste generator is responsible for ensuring that a copy of the WSR is delivered to the disposal site along with the waste shipment. If a copy of the WSR signed by the disposal site operator is not returned to the waste generator within 35 days, the waste generator must contact the transporter and/or the disposal site to determine the status of the waste shipment. 40 CFR 61.150(d)(3). If the signed WSR is not received within 45 days, the waste generator must report, in writing, to the responsible NESHAP program agency and send along a copy of the WSR. 40 CFR 61.150(d)(4). Copies of WSRs, including those signed by the disposal site operator, must be retained for at least 2 years. 40 CFR 61.150(d)(5).

V. Training

5.1. For those roof removals that are subject to the NESHAP, at least one on-site supervisor trained in the provisions of the NESHAP must be present during the removal of the asbestos roofing material. 40 CFR 61.145(c)(8). In EPA's view, this person can be a job foreman, a hired consultant, or someone who can represent the building owner or contractor responsible for the removal. In addition to the initial training requirement, a refresher training course is required every 2 years. The NESHAP training requirements became effective on November 20, 1991.

5.2. Asbestos training courses developed specifically to address compliance with the NESHAP in roofing work, as well as courses developed for other purposes can satisfy this requirement of the NESHAP, as long as the course covers the areas specified in the regulation. EPA believes that Asbestos Hazard Emergency Response Act (AHERA) training courses will, for example, satisfy the NESHAP training requirements. However, nothing in this interpretive rule or in the NESHAP shall be deemed to require that roofing contractors or roofing workers performing operations covered by the NESHAP must be trained or accredited under AHERA, as amended by the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). Likewise, state or local authorities may independently impose additional training, licensing, or accreditation requirements on roofing contractors performing operations covered by the NESHAP, but such additional training, licensing or accreditation is not called for by this interpretive rule or the federal NESHAP.

5.3. For removal of Category I asbestos containing roofing material where RB roof cutters or equipment that similarly damages the asbestos-containing roofing material are used, the NESHAP training requirements (§ 61.145(c)(8)) apply as discussed in Section I above. It is EPA's intention that removal of Category I asbestos-containing roofing material using hatchets, axes, knives, and/or the use of spud bars, pry bars and shovels to lift the roofing material, or similar removal methods that slice, punch, or shear the roof membrane are not subject to the training requirements, since

these methods do not cause the roof removal to be subject to the NESHAP. Likewise, it is EPA's intention that roof removal operations involving Category II nonfriable ACM are not subject to the training requirements where such operations are not subject to the NESHAP as discussed in section I above.

APPENDIX B

Arkansas Department of Pollution Control & Ecology



CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised October 1996

SECTION I

DEFINITIONS

Continuous Emission Monitoring System (CEMS) - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data. ¹

Calibration Drift (CD) - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place. ²

Primary CEMS - The main reporting CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate.

Back-up CEM (Secondary CEM) - A CEM with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEM is to serve as a back-up to the primary CEMS to minimize monitor downtime.

Out-of-Control Period - Begins with the hour corresponding to the completion of a daily calibration error, linearity check, or quality assurance audit that indicates that the instrument is not measuring and recording within the applicable performance specifications. Out-of-Control Period ends with the hour corresponding to the completion of an additional calibration error, linearity check, or quality assurance audit following corrective action that demonstrates that the instrument is measuring and recording within the applicable performance specifications. ³

Monitor Downtime - Any period during which the CEMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

Excess Emissions - Any period in which the emissions exceed the permit limits.

SECTION II

MONITORING REQUIREMENTS

- A. For new sources, the installation date for the CEMS shall be no later than thirty (30) days from the date of start-up of the source. ⁴
- B. For existing sources, the installation date for the CEMS shall be no later than sixty (60) days from the issuance of the permit unless a specific date is required by the permit. ⁴
- C. Within sixty (60) days of installation of a CEMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the Compliance Inspector Supervisor prior to testing. ⁵
- D. Each CEMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval the excess zero and span drifts measured must be quantified and recorded. ⁶
- E. All CEMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Failure to maintain operation time shall constitute a violation of the CEMS conditions. ¹⁸
- F. All sources with a CEMS shall meet 95% compliance per quarter for each pollutant. Failure to maintain compliance shall constitute a violation of the CEMS conditions. ¹⁸
- G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit. ⁷
- H. When the pollutant from a single affected facility is released through more than one point, a CEMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the Compliance Inspector Supervisor. When more than one CEMS is used to monitor emissions from one affected facility (e.g. multiple breaching or multiple exhaust) the owner or operator shall report the results as required from each CEMS. ⁸

SECTION III

NOTIFICATION AND RECORD KEEPING

- A. When requested to do so by an owner or operator, the Compliance Inspector Supervisor will review plans for installation or modification for the purpose of providing technical advice to the owner or operator. ⁹
- B. Each facility which operates a CEMS shall notify the Compliance Inspector Supervisor of the date for which the demonstration of the CEMS performance will commence (ie. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 days prior to testing. ¹⁰
- C. Each facility which operates a CEMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative. ¹¹
- D. Each facility required to install a CEMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, Compliance Inspector Supervisor) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter. ¹²
- E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADPC&E Quarterly Excess Emission Report Forms. These forms may be obtained from the Air Division of the Little Rock office of ADPC&E. Alternate forms may be used with the prior written approval from the Department. ¹³
- F. Each facility which operates a CEMS must maintain on site a file of CEMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for two years, and is required to be maintained in such a condition that it can easily be audited by an inspector. ¹⁴
- G. Quarterly reports shall be used by the Department to determine compliance with the permit. Violations of the CEMS Conditions may result in penalties and/or other enforcement action. ¹⁸

SECTION IV

QUALITY ASSURANCE/QUALITY CONTROL

- A. For each CEMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, Compliance Inspector Supervisor). Quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.
- B. The submitted QA/QC plan for each CEMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.
- C. Facilities responsible for one, or more, CEMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities: ¹⁵
1. Calibration of CEMS
 - a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
 2. Calibration drift determination and adjustment of CEMS
 - a. Out-of-control period determination
 - b. Steps of corrective action
 3. Preventive maintenance of CEMS
 - a. CEMS information
 - 1) Manufacture
 - 2) Model number
 - 3) Serial number
 - b. Scheduled activities (check list)
 - c. Spare part inventory
 4. Data recording, calculations, and reporting
 5. Accuracy audit procedures including sampling and analysis methods
 6. Program of corrective action for malfunctioning CEMS
- D. As part of the QA/QC plan for each CEMS, a Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA, RAA, and CGA test procedures shall be included in the QA/QC plan submitted for approval. Additionally, the justification and methodology for any alternate tests shall be submitted with the QA/QC plan. ¹⁶

- E. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control.¹⁷
1. Out-of-control begins with the hour corresponding to the completion of a daily calibration error, linearity check, or quality assurance audit that indicates that the instrument is not measuring and recording within the applicable performance specifications.
 2. Out-of-control ends with the hour corresponding to the completion of an additional calibration error, linearity check, or quality assurance audit following corrective action that demonstrates that the instrument is measuring and recording within the applicable performance specifications.
 3. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart.
- F. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEM is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEM shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

1 40 CFR, Part 60, Appendix F 2.1
2 40 CFR, Part 60, Appendix F 2.5
3 40 CFR, Part 60, Appendix F 4.3.1 & 5.2.1
4 40 CFR 60.13(b)
5 40 CFR 60.3(j)
6 40 CFR 60.13(d)(1), Part 60, Appendix F 4
7 40 CFR 60.13(e)(2)
8 40 CFR 60.13(g)
9 40 CFR 60.6(a)
10 40 CFR 60.7(5)
11 40 CFR 60.7(c)(2)
12 40 CFR 60.7(c)
13 40 CFR 60.7(d)
14 40 CFR 60.7(e)
15 40 CFR, Part 60, Appendix F 3
16 40 CFR, Part 60, Appendix F 5
17 40 CFR, Part 60, Appendix F 4.3
18 USEPA Guidance on the "Timely and Appropriate Enforcement Response to Significant Air Pollution
Violators" (2/7/92)

APPENDIX C

PM/PM No.	PM Program Description	Component Id.	Component Description	PM Type	Due Date	Last Performance	Component Type	PMU Unit Status	Safety Related	Env. Related
3005	Original Checklist was M058.txt	112040	FLY ASH SILO 1 DIFFUSER BLOWER (1A)	PM	8/12/97	2/15/98	GENERAL	On Line		
3055	Original Checklist was M058.txt	112041	FLY ASH SILO 1 DIFFUSER BLOWER (1B)	PM	8/12/97	7/2/98	GENERAL	On Line		
3384	SH5 (PRECIP) Flyash Blower	112040	FLY ASH SILO 1 DIFFUSER BLOWER (1A)	PM	10/27/97	7/7/98	GENERAL	On Line		
3384	SH5 (PRECIP) Flyash Blower	112041	FLY ASH SILO 1 DIFFUSER BLOWER (1B)	PM	10/27/97	7/7/98	GENERAL	On Line		
3641	Fly Ash Silo Baghouse - Quarterly PM	118012	BAGHOUSE FILT (1-1)	PM	7/24/97	7/2/98	GENERAL	On Line	Y	
3641	Fly Ash Silo Baghouse - Quarterly PM	118021	BAGHOUSE FILT (1-2)	PM	7/24/97	7/2/98	GENERAL	On Line	Y	

Maintenance Work Request

Date Printed: 06/17/1997 00:00

Work Request #: 470808

Ser Code:

Component ID: 118012

470808*

Plant: ISES Unit: Unit 1 Unit Status: ONLINE Offline Status:	Observed: 08/04/1995 00:30 Request Type: Preventive Maintenance Deficiency Tag No: Priority: 6	PM #: 8031
Physical Loc. Code: IN1 Resource Code: 005	Org. Code: UEC Activity Code: XMCR	Org. Charge Code: USC Project Code:
Request Status: New Request Creator: Roper, James P. Component: BAGHOUSE FLT (1-1) Condition: Location: Description: See last Page for PM instructions	Planner:	SMTR: ☐ Mech PM: ☐ I & C Hrs: ☐ Other Skills Hrs: ☒
Clearance Required: ☐	Environmentally Related: ☐	Safety Related: ☐
Include Attachments: ☐	Post Maintenance Test Required: ☐	
Override Priority Reason:		
Action Taken:		
Cause:		
Comments:		
Explanation:		
Recommend Root Cause Analysis: ☐		
Requires Safety U.S. Watch: ☐		
Drawing Markups Made: ☐ Yes ☐ No ☐ N/A Abnormal Condition Exists: ☐ Yes ☐ No ☐ N/A Work Area Cleaned: ☐ Yes ☐ No ☐ N/A	Equipment File Updated: ☐ Yes ☐ No ☐ N/A Insulation Replaced: ☐ Yes ☐ No ☐ N/A Hose Tracing: ☐ Yes ☐ No ☐ N/A	
Maintenance Supervisor: ☐ Approved ☐ Rejected Originating Department: ☐ Approved ☐ Rejected Post Maintenance Test: ☐ Approved ☐ Rejected	Last Updated By: Rejection Reason:	
Start Date: Completed By:	Completed:	Percent Completed:

Special Instructions for Work Request #: 470808

Date Printed: 06/17/1997 08:08

(M641)

BAGHOUSE

CHECK AIR LEAKS ON PULSATION SYSTEM

CHECK AIR OPERATED VALVES

CHECK PIPING & SUPPORTS

CHECK AIR CYLINDERS

CHECK BAGHOUSE DOORS & SEALS

CHECK BAGS

PULSATION TUBES

CHECK DIFFUSER BLOWER BEARINGS FOR HEAT AND VIBRATION

CHECK BLOWER CASE FOR EXCESSIVE HEAT BUILDUP

CHECK INLET FILTER AND CHANGE AS NEEDED

WRITE WR AS NEEDED

Maintenance Work Request

Data Entered: 06/27/00 09:07

Work Request #: 471463

For Codes: 471463*

Component ID: 118021

Plant: ISES Unit: Unit 1 Unit Status: ONLINE Offline Status:	Observed: 10/13/1980 00:22 Request Type: Preventive Maintenance Deficiency Tag No: Priority: 8	PM #: 2809
Physical Loc. Code: IN1 Resource Code: 005	Org. Code: UEC Activity Code: XMCR	Org. Charged Code: UEC Project Code:
Request Status: New Request Creator: Roper, James P. Component: BAGHOUSE FILT (1-2) Condition: Location: Description: See last Page for PM Instructions	Planned:	Other: Elec Test: ☐ Hazard Test: ☐ I & C Test: ☐ Other Safety Test: ☒
Clearance Required: ☐	Environmentally Related: ☐	Safety Related: ☐
Include Attachments: ☐	Post Maintenance Test Required: ☐	
Override Priority Reason:		
Action Taken:		
Cause:		
Comments:		
Explanation: Recommend Root Cause Analysis: ☐ Requires Follow Up Work: ☐		
Drawing Markups Made: ☐ Yes ☐ No ☐ N/A Abnormal Condition Exists: ☐ Yes ☐ No ☐ N/A Work Area Cleaned: ☐ Yes ☐ No ☐ N/A	Equipment File Updated: ☐ Yes ☐ No ☐ N/A Instruction Replaced: ☐ Yes ☐ No ☐ N/A Heat Tagging: ☐ Yes ☐ No ☐ N/A	
Maintenance Supervisor: ☐ Approved ☐ Rejected Originating Department: ☐ ☐ Post Maintenance Test: ☐ ☐	Last Updated By: ☐ Reason for Change: ☐	
Start Date: Completed By:	Completed:	Percent Completed:

1

2

3

Special Instructions for Work Request #: 471483

Date Printed: 00/17/0007 03:07

(M641)

BAGHOUSE

CHECK AIR LEAKS ON PULSATION SYSTEM

CHECK AIR OPERATED VALVES

CHECK PIPING & SUPPORTS

CHECK AIR CYLINDERS

CHECK BAGHOUSE DOORS & SEALS

CHECK BAGS

PULSATION TUBES

CHECK DIFFUSER BLOWER BEARINGS FOR HEAT AND VIBRATION

CHECK BLOWER CASE FOR EXCESSIVE HEAT BUILDUP

CHECK INLET FILTER AND CHANGE AS NEEDED

*****WRITE WR AS NEEDED***

