

ADEQ

ARKANSAS
Department of Environmental Quality

MAR 14 2016

Jonathan Hawkins, EH&S Technician
Blue Cube Operations LLC
3230 Dow Drive
Russellville, AR 72802

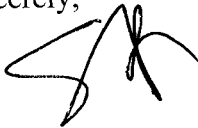
Dear Mr. Hawkins:

The enclosed Permit No. 0801-AOP-R10 is your authority to construct, operate, and maintain the equipment and/or control apparatus as set forth in your application initially received on 10/2/2015.

After considering the facts and requirements of A.C.A. §8-4-101 et seq. as referenced by §8-4-304, and implementing regulations, I have determined that Permit No. 0801-AOP-R10 for the construction and operation of equipment at Blue Cube Operations LLC shall be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8, within thirty (30) days after service of this decision.

The applicant or permittee and any other person submitting public comments on the record may request an adjudicatory hearing and Commission review of the final permitting decisions as provided under Chapter Six of Regulation No. 8, Administrative Procedures, Arkansas Pollution Control and Ecology Commission. Such a request shall be in the form and manner required by Regulation 8.603, including filing a written Request for Hearing with the APC&E Commission Secretary at 101 E. Capitol Ave., Suite 205, Little Rock, Arkansas 72201. If you have any questions about filing the request, please call the Commission at 501-682-7890.

Sincerely,



Stuart Spencer
Associate Director, Office of Air Quality

Enclosure: Final Permit

RESPONSE TO COMMENTS

BLUE CUBE OPERATIONS LLC PERMIT #0801-AOP-R10 AFIN: 58-00011

On January 15, 2016, the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, written comments on the draft permitting decision were submitted by David Carstens, Environmental Engineer of ECCI, on behalf of the facility. The Department's response to these issues follows.

Note: The following page numbers and condition numbers refer to the draft permit. These references may have changed in the final permit based on changes made during the comment period.

(1). TABLE OF CONTENTS

A header labelled "Miscellaneous Sources" should be inserted immediately before Source Number (SN) -38 to be consistent with the formatting for the other sources. Also, the full name for the cell putty manufacturing operation (SN-40) should be used. The proposed changes are shown below underlined:

"Grit Blasting Operations
SN-06, SN-11, SN-14, and SN-19 Grit Blasting Operations #1, #2, #3, and #4
Miscellaneous Sources
SN-38 Fueling Station
SN-39 Gasket Glue Removal Operation
SN-40 Cell Putty Manufacturing Operation"

Response to comment (1): The request is accepted and the change will be made.

(2). INTRODUCTION (SECTION II)

The introduction to the Title V Permit contains some minor typographic errors. The proposed changes to the Summary of Permit Activity and Process Description are shown below underlined:

(A). "~~The~~ Blue Cube Operations LLC (Blue Cube) operates an industrial plant located in Russellville, Arkansas.... The total permitted emission rate limit changes associated with this activity includes -0.10 tpy PM, -0.10 tpy PM₁₀, -4.40 tpy VOCs, -0.44 tpy Acetone and -3.80 tpy Ammonia." (Page #5, paragraph #1)

Response to comment (2)(A): The request is accepted and the change will be made.

(B). “~~Blue Cube Operations LLC~~ (Blue Cube) operates an industrial facility located in Russellville, Arkansas.... The corresponding North American Industry Classification System (NAICS) Code is ~~#333298~~#333249 (all other industrial machinery manufacturing).” (Page #5, paragraph #2)

Response to comment (2)(B): The request is accepted and the change will be made.

(C). “Blue Cube is a wholly owned subsidiary of Olin Corporation (Olin). Blue Cube ~~Operations LLC~~ merged with Olin on October 5, 2015. [Insert paragraph break] The production activities at the Blue Cube facility include the following:...” (Page #5, paragraph #3)

Response to comment (2)(C): The ownership details were deleted.

(D). “The primary casting material is a styrene-based resin.... The insulated tank is chilled to maintain the stability of the styrene-based resin. The resin is subsequently and pumped into a 500-gallon “day tank” (SN-08A) that supplies the casting operations.” (Page #5, paragraph #6)

Response to comment (2)(D): The request is accepted and the change will be made.

(E). “Next, various pre-manufactured cell components are manually inserted into the mold... The liner is subsequently trimmed using various hand tools. [Insert paragraph break] The reinforced polymer concrete cell component is now cast...” (Page #6, paragraph #9)

Response to comment (2)(E): The request is accepted and the change will be made.

(F). “The parts are first transferred to the grit blasting building by forklift... Coal slag is used as the abrasive medium. [Insert paragraph break] Next, the anode mounting enclosure is laminated with a mixture of resin and fiberglass (SN-07)...” (Page #7, paragraph #6)

Response to comment (2)(F): The request is accepted and the change will be made.

(G). “After grit blasting, the anode is washed with water (no SN)... The anode is subsequently moved to the dip coating area. [Insert paragraph break] A dip coating process is used to apply layers of precious metals to the electrode...” (Page #8, paragraph #7)

Response to comment (2)(G): The request is accepted and the change will be made.

(H). “After blasting, the anode is moved to a specialized coating booth... The coating booth (SN-16) is equipped with a “hydrostatic precipitator” for the control of metal overspray. [Insert paragraph break] Finally, the repaired anode is placed within a reinforced polymer concrete frame. (Page #9, paragraph #4)

Response to comment (2)(H): The request is accepted and the change will be made.

(I). “Fabrication of the cathode pockets (no SN) is an insignificant source of air emissions. These manufacturing activities are almost entirely mechanical in nature. [Insert paragraph break] A hand-held grinder is used to smooth the cathode pockets (SN-25) during the fabrication process...” (Page #9, paragraph #9)

Response to comment (2)(I): The request is accepted and the change will be made.

(J). “A dip coating process is used to apply layers of precious metals to the anode units... The coating mixture is prepared in the aforementioned two mix tanks (SN-22) and then stored in several holding tanks (SN-28). [Insert paragraph break] The membrane cell anode is surface coated in a large dip tank (SN-20)...” (Page #10, paragraph #5)

Response to comment (2)(J): The request is accepted and the change will be made.

(K). “The manufacturing operations at the Blue Cube facility are a significant source of emissions of regulated air pollutants... ~~The sources of air pollution at the Russellville facility are identified and quantified in Section 5.0 (Air Emission Calculations) of this application.~~” (Page #11, paragraph #6)

Response to comment (2)(K): The request is accepted and the change will be made.

The proposed changes to the Emission Rate Summary Table are provided below:

(L). Styrene should be added to the emission rate summary for hazardous air pollutants (HAPs). The facility-wide annual emission rate is 9.50 tons per year (tpy).

Response to comment (2)(L): The request is not accepted. The Department only list on permits HAPs with a TLV less than 1mg/m³, HAPs over 10 tpy or chargeable HAPs.

(M). The emission rates for styrene should also be listed under the Production Unit #5 operations (SN-07). (See Comment #3B below.)

Response to comment (2)(M): The request is not accepted. The Department only list on permits HAPs with a TLV less than 1mg/m³, HAPs over 10 tpy or chargeable HAPs.

(N). The description of the cathode oil coating operation (SN-27) should be changed from “permanently removed from service” to “added to insignificant activities list.” (See Comment #5B below.)

Response to comment (2)(N): SN-27 was deleted from the emission summary table.

(3). **SPECIFIC CONDITIONS (SECTION III)**

The Specific Conditions (SCs) presented in the Title V Permit contain some minor typographic errors. The proposed changes are shown below underlined:

(A). SC #1: One of the SCs cited in SC #1 (page #19) to demonstrate compliance with the VOC emission rates for the Production Unit #5 operations (SN-05) is incorrect. The correct citation is SC #28 (resin throughput limit), rather than SC #27 (HAP emission limits for resin storage tanks). SC #1 should be revised as follows: “The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 3, 5, 9, ~~27~~ 28 and equipment limitations.”

Response to comment (3)(A): The request is accepted and the change will be made.

(B). SC #2: One of the SCs used to demonstrate compliance with the HAP emission rates for the Production Unit #5 operations (SN-05) is not cited in SC #2 (page #19). It is SC #5 (naphtha throughput limit). This provision is cited in the preceding SC #1. SC #2 should be revised accordingly.

Also, styrene is not included in the emission rate table presented in SC #2. Styrene is one of the predominant HAPs emitted at SN-07. SC #2 should be revised as follows:

“The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 3, 5, 7, and 9, Plantwide Condition 12, and equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]”

| SN | Description | Pollutant | lb/hr | tpy |
|-----------|--------------------------------------|-----------------------|------------|--------------|
| <u>07</u> | <u>Production Unit #5 Operations</u> | <u>Styrene</u> | <u>N/A</u> | <u>9.50*</u> |
| | | 1,1,1-Trichloroethane | N/A | 1.33* |
| | | Methylene Chloride | N/A | 9.50* |
| | | Acetone | N/A | 4.90 |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition #12.

Response to comment (3)(B): The request to cite SC #5 in SC#2 is accepted. However, Styrene is not added to the emission rate table. The emission rate limit set for “single HAP” in the emission summary table also limits styrene. Single HAP and styrene have the same emission rate.

(C). SC #4: In the regulatory citation (page #20), a space should be inserted after the phrase “Reg.19.705,” to read as follows: [Reg.19.705, 40 C.F.R. § 52 Subpart E and

Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Response to comment (3)(C): The request is accepted and the change will be made.

(D). SC #16: The HAP emission limits for the anode bake oven (SN-13) are established in SC #16 (page #22). The annual emission rate for total HAPs should be specified as “23.75 tpy” rather than “23.5 tpy” to be consistent with the facility-wide limit established in Plantwide Condition (PC) #12 (page #44). The table should be revised as follows: “~~23.5~~23.75 tpy”.

Also, the formatting for the footnote to the emission rate table should be adjusted so that reference to PC #12 is provided on a single line.

Response to comment (3)(D): The request is accepted and the change will be made.

(E). Introduction for SN-15 and SN-16: The brand name of the air pollution control device mentioned in the description of the metal flame spray coating operation (SN-16) should be revised. The text (page #24, paragraph #2) should read as follows: “Particulate (dust) from the coating activities is captured by a Type N Roto-Clonean “American Air” hydrostatic precipitator.”

Response to comment (3)(E): The request is accepted and the change will be made.

(F). SC #26: The SC cited in SC #26 (page #27) to demonstrate compliance with the emission rates for the casting resin storage tank (SN-08R), casting resin day tank (SN-08A) and casting resin containers (SN-09A) is incorrect. The correct citation is SC #28 (resin throughput limit), rather than SC #27 (HAP emission limits). SC #26 should be revised as follows: “The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Condition 2728 and equipment limitations.”

Response to comment (3)(F): The request is accepted and the change will be made.

(G). SC #27: The HAP emission limits for the casting resin storage tank (SN-08R), casting resin day tank (SN-08A) and casting resin containers (SN-09A) are established in SC #27 (page #28). The annual emission rate for total HAPs should be specified as “23.75 tpy” rather than “23.5 tpy” to be consistent with the facility-wide limit established in PC #12 (page #44). The table should be revised as follows: “~~23.5~~23.75 tpy”.

Response to comment (3)(G): The request is accepted and the change will be made.

(H). SC #30: The annual emission rate for the mix tank exhaust (SN-22) and mix room exhaust vent (SN-23) contains a footnote reference (“147.3¹”). The reference (page #30) should be changed to an asterisk (“*”) to be consistent with other permit conditions. The

reference for the associated footnote should be revised as well. The proposed changes are shown below:

| SN | Description | Pollutant | lb/hr | tpy |
|---------|---|-----------|-------|---------------------|
| 22 & 23 | Mix Tank Exhaust Vent and Mix Room Exhaust Vent | VOC | 3.3 | 147.3 ^{1*} |

1 * - Combined emissions from sources: SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, and SN-28.

Response to comment (3)(H): The (“’1”) is maintained in the table to be consistent with the emission summary table. Also, wherever the same footnote is mentioned with an asterisk (“’*”), the asterisk (“’*”) is replaced by (“’1”); for example in SC# 22, 24 and 32.

(I). SC #33: The annual emission rate for the coating solvent storage mix tanks and day tank (SN-28) contains a footnote reference (“147.3^{1*}”). The reference (page #31) should be changed to an asterisk (“’*”) to be consistent with other permit conditions. Refer to the preceding comment for more information.

Response to comment (3)(I): The (“’1”) is maintained in the table to be consistent with the emission summary table. Also, wherever the same footnote is mentioned with an asterisk (“’*”), the asterisk (“’*”) is replaced by (“’1”); for example in SC# 22, 24 and 32.

(J). SC #38: A line break should be inserted after the emission rate table for SC #38 (page #34) to separate this condition from the following SC #39.

Response to comment (3)(J): The request is accepted and the change will be made.

(K). Introduction for SN-04, SN-17 and SN-25: The diaphragm cathode grinding operation (SN-25) is now equipped with dust filter cartridges, rather than a baghouse. The description of this source (page #32, paragraph #3) should be revised to read as follows: “For SN-25, dust from the grinding activities ~~are is~~ captured by ~~a baghouse using Mega Flo dust filter cartridges filters. This dust collector minimizes dust exposure to personnel.~~”

Response to comment (3)(K): The request is accepted and the change will be made.

(L). SC #41: The SCs cited in SC #41 (page #36) to demonstrate compliance with the VOC emission rates for the fueling station (SN-38) are incorrect. The correct citations are SC #43 (gasoline throughput limit) and SC #44 (diesel fuel throughput limit), rather than SC #42 (HAP emission limits) and SC #43. SC #41 should be revised as follows: “The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Conditions ~~42, 43, 44~~ and equipment limitations.”

Response to comment (3)(L): The request is accepted and the change will be made.

(M). SC #42: This SC (page #36) establishes the HAP emission rates for the fueling station (SN-38). The rate table contains a footnote that refers to the plant-wide HAP emission limits. An asterisk (“*”) should be added to the annual HAP emission limit to complete the reference to the footnote. The table should be revised as follows: “0.2*”.

Response to comment (3)(M): The request is accepted and the change will be made.

(N). SC #45: The SCs cited in SC #45 (page #36) to demonstrate compliance with the gasoline and diesel fuel usage limits for the fueling station (SN-38) are incorrect. The correct citations are SC #43 (gasoline throughput limit) and SC #44 (diesel fuel throughput limit), rather than SC #42 (HAP emission limits) and SC #43. SC #45 should be revised as follows: “The permittee shall maintain records which demonstrate compliance with the throughput limits set in Specific Conditions 42 and 43 and 44.”

Response to comment (3)(N): The request is accepted and the change will be made.

(O). SC #46: The gasoline storage tank (part of SN-38) is subject to NESHAP Subpart CCCCCC. The regulatory requirements are specified in SC #46 and SC #47 (page #37). The compliance date cited in SC #46 has expired and therefore is no longer applicable. Also, the permit citation for the regulatory requirements is incorrectly reported as SC #46. The correct citation is SC #47. SC #46 should be revised to read as follows: “This source is subject to regulation under 40 CFR Part 63, *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities* ~~and must comply with the following provisions by January 10, 2011.~~ These provisions include, but are not limited to, Specific Condition # 4647.”

Response to comment (3)(O): The request is accepted and the change will be made.

(P). SC #49: A comma should be inserted in the number “3500” in the first sentence (page #38) to read as follows: “The permittee shall not use in excess of 3,500 pounds of solvent at SN-39 during any consecutive twelve-month period.”

Response to comment (3)(P): The request is accepted and the change will be made.

(Q). Introduction to SN-40: The full name of the cell putty manufacturing operation (SN-40) would be used in the header for this source. Also, the description of this existing operation should be revised to read as follows: “Contained in the M83 Anode Blasting Containment Room (SN-11) is a process to make Cell Putty. A HEPA filter with minimum efficiency of 99.97% will be utilized to control particulate emissions (which include asbestos).”

Response to comment (3)(Q): The request is accepted and the change will be made.

(R). SC #51: The SCs cited in SC #51 (page #39) to demonstrate compliance with the PM10 and VOC emission rates for the cell putty manufacturing operation (SN-40) are incorrect. The correct citations are SC #53 (opacity limit), SC #55 (asbestos throughout limit) and SC #58 (control equipment), rather than SC #54 (putty throughput limit) and SC #59 (visible emissions monitoring). SC #51 should be revised as follows: “The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 54-53, 55 and 5958.”

Response to comment (3)(R): The request is not accepted (don’t agree with 54 and 53). Specific Condition 54 should be kept. SC 54 is regarding the throughput of cell putty, on which the emission calculation was based. Specific Condition 53 should not be added. Specific Condition 53 is concerned with the opacity. However, Specific Conditions 55 and 58 will be cited and 59 will not be cited.

(S). SC #52: The SCs cited in SC #52 (page #39) to demonstrate compliance with the PM and asbestos emission rates for the cell putty manufacturing operation (SN-40) are incorrect. The correct citations are SC #55 (asbestos throughout limit) and SC #58 (control equipment), rather than SC #55, SC #56 (recordkeeping provisions) and SC #59 (visible emissions monitoring). SC #52 should be revised as follows: “The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 55, 56and 5958.”

Response to comment (3)(S): The regulations citations were changed to the putty throughput, SC-54, and asbestos throughout, SN-55.

(T). SC #53: The SCs cited in SC #53 (page #39) to demonstrate compliance with the opacity limit for the cell putty manufacturing operation (SN-40) are incorrect. The correct citations are SC #59 through #61, rather than SC #61 through #63. SC #53 should be revised as follows: “The permittee shall not exceed 0% opacity from SN-40. Compliance with this condition will be demonstrated by Specific Conditions 59, 60 and 61-62, and 63.”

Response to comment (3)(T): The request is accepted and the change will be made.

(U). SC #56: This provision establishes the recordkeeping requirements for the cell putty manufacturing operation (SN-40). The SCs cited in SC #56 (page #40) are incorrect. The correct citations are SC #54 (putty throughput limit) and SC #55 (asbestos throughout limit), rather than SC #55 and SC #56 (recordkeeping requirements). SC #56 should be revised to read as follows: “The permittee shall maintain records which demonstrate compliance with the manufacturing and throughput limits set in Specific Conditions 54 and 55and 56.”

Response to comment (3)(U): The request is accepted and the change will be made.

(V). SC #57: This SC establishes that the cell putty manufacturing operation (SN-40) is subject to the Asbestos NESHAP (Part 61 Subpart M). The SCs cited in SC #57 (page #40) to demonstrate compliance with this Rule are incorrect. The correct citations are SC #58 through SC #66, rather than SC #59 through SC #67. SC #57 should be revised as follows: “This source (SN-40) is subject to regulation under 40 C.F.R. Pt. 61, National Emission Standard for Asbestos and must comply with the following provisions. These provisions include, but are not limited to, Specific Conditions 59-58 through 6766.”

Response to comment (3)(V): The request is accepted and the change will be made.

(4). PLANTWIDE CONDITIONS (SECTION VI)

The Plantwide Conditions (PCs) presented in the Title V Permit contain some minor typographic errors. The proposed changes are shown below in redline-strikeout format:

(A). PC #17: The number symbol (#) should be deleted from the first sentence (page #45) to read as follows: “The permittee shall maintain records which demonstrate compliance with Plantwide Condition #16.”

Response to comment (4)(A): The request is accepted and the change will be made.

(B). PC #24: The cell putty manufacturing operation (SN-40) is subject to the Asbestos NESHAP (Part 61 Part M). This source should be listed in the table of applicable regulations (page #47).

Response to comment (4)(B): The request is accepted and the change will be made.

Also, the DAC V coating operation (SN-36) and DAC III coating operation (SN-37) have been deleted. These two sources should be deleted from the entry for NESHAP Subpart WWWW in the table of inapplicable regulations (page #48).

(5). LIST OF INSIGNIFICANT ACTIVITIES (SECTION VII)

This section contains one minor typographic error. In addition, Blue Cube requests that one source be added to the insignificant activities list. These changes are discussed below:

(A). Introduction: The word “is” should be added to the introductory paragraph (page #49) to read as follows: “The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of Reg.26.304 or is listed in the table below.”

Response to comment (5)(A): The request is accepted and the change will be made.

(B). Addition of SN-27: At one time, a “cathode oil coating operation” (SN-27) was performed at the Russellville facility. Blue Cube discontinued this operation circa 2014. SN-27 was not included in the renewal permit application filed in October 2015. As a

result, this source is not included in draft Permit –R10.

Business conditions have now changed. Blue Cube needs to restart the cathode oil coating operation (SN-27).

On February 4, 2016, Blue Cube requested that SN-27 be added to the list of insignificant activities for the Russellville facility (page #49). This operation should qualify as a “Category A-13” source (*de minimis* emissions). The proposed change is shown below:

| Description | Category | Classification |
|-------------------------------|----------|------------------------------------|
| Cathode Oil Coating Operation | A-13 | <i>De <u>Minimis</u> Emissions</i> |

Response to comment (5)(B): The Cathode Oil Coating Operation was added as an A-13 insignificant activity.

ADEQ OPERATING AIR PERMIT

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

Permit No. : 0801-AOP-R10

IS ISSUED TO:

Blue Cube Operations LLC
3230 Dow Drive
Russellville, AR 72802
Pope County
AFIN: 58-00011

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:

MAR 14 2016

AND

MAR 13 2021

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



Stuart Spencer
Associate Director, Office of Air Quality

MAR 14 2016

Date

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Appendix A: 40 CFR Part 63, Subpart CCCCCC

Appendix B: 40 CFR Part 61, Subpart M

Blue Cube Operations LLC
Permit #: 0801-AOP-R10
AFIN: 58-00011

List of Acronyms and Abbreviations

| | |
|------------------|---|
| Ark. Code Ann. | Arkansas Code Annotated |
| AFIN | ADEQ Facility Identification Number |
| C.F.R. | Code of Federal Regulations |
| CO | Carbon Monoxide |
| HAP | Hazardous Air Pollutant |
| lb/hr | Pound Per Hour |
| MVAC | Motor Vehicle Air Conditioner |
| No. | Number |
| NO _x | Nitrogen Oxide |
| PM | Particulate Matter |
| PM ₁₀ | Particulate Matter Smaller Than Ten Microns |
| SNAP | Significant New Alternatives Program (SNAP) |
| SO ₂ | Sulfur Dioxide |
| SSM | Startup, Shutdown, and Malfunction Plan |
| Tpy | Tons Per Year |
| UTM | Universal Transverse Mercator |
| VOC | Volatile Organic Compound |

Blue Cube Operations LLC
Permit #: 0801-AOP-R10
AFIN: 58-00011

SECTION I: FACILITY INFORMATION

PERMITTEE: Blue Cube Operations LLC

AFIN: 58-00011

PERMIT NUMBER: 0801-AOP-R10

FACILITY ADDRESS: 3230 Dow Drive
Russellville, AR 72802

MAILING ADDRESS: 3230 Dow Drive
Russellville, AR 72802

COUNTY: Pope County

CONTACT NAME: Jackie Steele

CONTACT POSITION: Environmental, Health & Safety Technician

TELEPHONE NUMBER: (479) 968-0832

REVIEWING ENGINEER: Franck Houenou

UTM North South (Y): Zone 15: 3899572.59 m

UTM East West (X): Zone 15: 486371.35 m

SECTION II: INTRODUCTION

Summary of Permit Activity

Blue Cube Operations LLC (Blue Cube) operates an industrial plant located in Russellville, Arkansas. This is the third Title V Renewal permit for this facility. With the renewal, the facility requested to delete four discontinued production operations from the air permit coverage. The facility is removing sources SN-27, SN-30, SN-36 and SN-37. The total permitted emission rate limit changes associated with this activity includes -0.10 tpy PM, -0.10 tpy PM₁₀, -4.40 tpy VOCs, -0.44 tpy Acetone and -3.80 tpy Ammonia.

Process Description

Blue Cube operates an industrial facility located in Russellville, Arkansas. The physical address of the site is 3230 Dow Drive. Cathode and anode electrodes for chlorine (“chlor-alkali”) production cells are made and refurbished at the plant. The polymer concrete components for these units are also fabricated onsite. The manufacturing operations at the Russellville facility are properly categorized using Standard Industrial Classification (SIC) Code #3559 (special industrial machinery, not elsewhere classified). The corresponding North American Industry Classification System (NAICS) Code is #333249 (all other industrial machinery manufacturing).

The production activities at the Blue Cube facility include the following: the casting of polymer concrete frames, covers and other parts for chlorine cells; the fabrication of cathode and anode electrodes; the refurbishing of certain anode units; several electrode-coating processes; numerous grit blasting and grinding operations; and, a variety of miscellaneous industrial activities.

CASTING OF REINFORCED POLYMER CONCRETE COMPONENTS FOR DIAPHRAGM CELLS (PRODUCTION UNIT #5)

Blue Cube makes frames, covers and other components for chlorine production cells (“diaphragm” -type units). These reinforced “polymer concrete” parts are made in Production Unit #5. The manufacturing operations are described below:

The raw materials for the batch casting operations include several styrene-based “epoxy vinyl ester resins”, sand, chopped fiberglass, and miscellaneous ingredients.

The primary casting material is a styrene-based resin. This product is delivered in bulk by truck. The material is stored in the casting resin tank (SN-08R). This aboveground, vertical vessel has a storage capacity of 14,300 gallons. The insulated tank is chilled to maintain the stability of the styrene-based resin. The resin is subsequently pumped into a 500-gallon “day tank” (SN-08A) that supplies the casting operations.

Four additional casting compounds are received in 350-gallon tote bins and/or 55-gallon drums (SN-09A).

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Sand for the casting operations is delivered in bulk by truck. The material is pneumatically unloaded into a large storage silo (SN-02A). The silo is equipped with a baghouse. It is used to control the dust emissions generated during the unloading operations.

The material is subsequently transferred to a bulk resin mixer located inside Production Unit #5. The sand transfer system (SN-03A) encompasses all of the conveying and handling equipment from the storage silo to the mixer. These units include a bucket elevator, two belt conveyors, a screener, a weigh hopper, and the mixer itself. A single baghouse (SN-04) is used to control the particulate emissions from both the sand transfer system (SN-03A) and the M83 covers grinding operation (SN-04).

Chopped fiberglass is received in bulk boxes by truck. When needed, the material is transferred into the mixer unit using a vacuum system (SN-15). The fiberglass transfer system is equipped with dust filter cartridges.

Various other raw materials are processed in the polymer casting operations. These products include several resin stabilizers, a resin catalyst, and two mold release agents. These materials are purchased in tote bins and/or drums.

The polymer concrete materials are prepared in a large mechanical mixer unit (SN-07). The various ingredients are added to the vessel and then thoroughly blended to form a uniform composition. The material is then transferred to the casting area.

The bulk mixer is cleaned (SN-07) after polymer preparation has been completed. Methylene chloride is used for this purpose. The mixer is rinsed and flushed with solvent until it is clean. The methylene chloride is then collected for subsequent recycling or disposal off-site. The mixer is cleaned on an as-needed basis. The fugitive solvent emissions from the resin mixer may be emitted via the vent for the M83 covers grinding operation (SN-04). The fugitive solvent emissions are accounted for at SN-07.)

The cell frames and covers are cast in large metal molds. Prior to use, each unit is coated with a mold release agent. The purpose of these materials is to allow the cast component to be cleanly removed from the mold after curing. The mold release agents are manually applied using paintbrushes (SN-07).

Next, various pre-manufactured cell components are manually inserted into the mold. These items include drain plugs, fiberglass reinforcements, and other parts. A liner mixture is then sprayed onto the mold using a "chopper gun" (SN-07). The material is then allowed to harden. The liner is subsequently trimmed using various hand tools.

The reinforced polymer concrete cell component is now cast. The resin mixture is poured into the mold. The material is then manually tamped into the mold recesses. Next, the surface of the resin is finished with trowels. The polymer concrete is then allowed to harden. After curing, the component is dislodged from the mold. The part is then subjected to further processing. Blue

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Cube operates four resin casting stations. Each station is equipped with a dedicated vent hood (SN-07). Excess polymer concrete is used to make parking blocks and other items.

Blue Cube also operates a “small batch casting area” (SN-07). It is used to make miscellaneous polymer concrete components. This process is performed in the same general manner as the bulk casting operation. A resin mixture is prepared, poured into molds, and then allowed to harden. The cast components are subsequently dislodged from the molds and finished.

Acetone is used to clean the hand tools utilized in the casting operations. The solvent is stored within the work area in closed five-gallon containers.

The air emissions from the polymer concrete casting operations (SN-07) are exhausted via the general ventilation system for Production Unit #5.

FINISHING OF CAST COMPONENTS FOR DIAPHRAGM CELLS (PRODUCTION UNIT #5)

After casting, the polymer concrete components are subjected to various finishing operations. These activities are described below:

The parts are first transferred to the grit blasting building by forklift. Flashing is then manually removed using various hand tools. The covers, shells, and cell frames are then grit blasted to remove burrs and rough edges. The cell frames are subsequently subjected to additional processing, whereas the shells and cover parts are stored pending cell assembly. The grit blasting building (SN-06) is equipped with a baghouse for the control of dust emissions. Coal slag is used as the abrasive medium.

Next, the anode mounting enclosure is laminated with a mixture of resin and fiberglass (SN-07). After the laminate has cured, a hand-held mechanical grinder is used to trim the material (SN-04). The grinding room is equipped with a baghouse for the control of dust emissions. Additional resin (“thick mix”) is subsequently applied to the corners of the liner (SN-07) for extra seal protection. The resin is applied using brushes and trowels.

Additional finishing of the cast components is performed at this time. A hand-held grinder is used to trim the metal and polymer concrete forms (SN-17). The grinding room is equipped with a baghouse for the control of dust emissions.

The cell frames are then moved by forklift to “turning stands” in the finishing area. A hand-held rasp is used to remove any flashing. Other hand tools are used to clean the bolts on the frame. Baffles are then glued into both ends of the frame. Finally, a corrosion barrier is poured along the inside edge of the anode enclosure (SN-07). Other minor finishing work is performed on the frames as needed. The completed cell frames are then transferred to Production Units #6 and #7 for assembly or are placed in storage.

The prefabricated backboards for cathode terminal cells are finished prior to use. Each unit is first grit blasted (SN-06). The backboard is then bolted into the cell frame. Next, a sealant

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mixture is prepared and poured around the outer perimeter of the backboard (SN-07). The cell is then turned over and a resin seal is applied to the other side (SN-07). A sealant mixture is subsequently applied to the backboard using a paint roller (SN-07). The finished unit is then moved to storage to await shipment off-site.

REFURBISHING OF DIAPHRAGM ANODE ELECTRODES (PRODUCTION UNIT #6)

Blue Cube refurbishes used anodes (“M-83” –type diaphragm units) for chlor-alkali cells at the Russellville facility. These operations are performed within Production Unit #6. The repair activities are described below:

The M-83 anode assemblies are delivered by truck. The units are unloaded and visually inspected for cleanliness. Anodes that have not been adequately cleaned are returned to the originating facility for additional processing. The units that pass visual inspection are placed on pallets. The components are subsequently sent to an off-site contractor where the anodes are grit blasted to remove the old metal surfacing.

Upon return, each grit-blasted anode assembly is taken to the backboard repair area. The corroded areas on the backboard are trimmed with a plasma cutter. A hand-held grinder is then used to remove any remaining pits and corrosion along the trimmed edges (no SN). Metal strips are welded onto the backboard to replace the portions that were previously removed. Other repair work is also performed.

After the repairs have been completed, the anode is moved to a grit blasting area (SN-14). The backboard is then blasted to remove oxidation. Aluminum oxide is used as the abrasive medium. The blasting room is equipped with filter cartridges for the control of dust emissions.

The anode is then transferred to a second grit blasting area (SN-11). The unit is blasted again to prepare it for surface coating. Aluminum oxide is used as the abrasive. The blasting room is equipped with dust filter cartridges.

After grit blasting, the anode is washed with water (no SN). The component is then allowed to air dry. The anode is subsequently moved to the dip coating area.

A dip coating process is used to apply layers of precious metals to the electrode. The coating compounds are purchased in drums. Isopropyl alcohol is used as the coating medium. It is delivered in bulk by truck. The solvent is stored in an 8,000-gallon tank (SN-26) prior to use. Anhydrous hydrogen chloride (HCl) is used to achieve deposition of the metals onto the electrode surface. The gas is purchased in 60-pound cylinders.

The coating solution is prepared in two small open-top mix tanks (SN-22). A mixture of isopropyl alcohol and HCl is first pumped into the vessels. Measured amounts of the coating materials are subsequently added. After mixing, the solution is transferred into one of two coating mix storage tanks (SN-28). Each vessel has a capacity of several hundred gallons. Prior to use, the material is pumped into one of two “day tanks” (SN-28) located in the coating areas.

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These units also hold several hundred gallons each. One additional vessel (SN-28) serves as an emergency dump tank in the event of a process upset. It has a capacity of over 1,000 gallons. (The mix room is equipped with an exhaust hood (SN-23) for general ventilation.)

The diaphragm anode assembly is surface coated in a large dip tank (SN-12). The electrode is then transferred to a natural gas-fired oven (SN-13) for curing. The dipping and baking process is repeated several times until the desired coating thickness is attained. The electrode is conveyed into and out of the dip tank and oven using an overhead crane. The gas-fired curing oven has a rated heat input capacity of 2.60 million British Thermal Units per hour.

The anode is subsequently transferred back to the grit blasting area (SN-14). The backboard is then blasted to prepare it for coating with metal.

After blasting, the anode is moved to a specialized coating booth. Molten metal is applied to the backboard at this time. The metal coating is then allowed to cool and harden. The coating booth (SN-16) is equipped with a “hydrostatic precipitator” for the control of metal over-spray.

Finally, the repaired anode is placed within a reinforced polymer concrete frame. Miscellaneous parts are then attached. The refurbished electrode assembly is subsequently moved to storage pending shipment off-site.

MANUFACTURE OF DIAPHRAGM CATHODE ELECTRODES (PRODUCTION UNIT #7)

The cathodes for chlorine production cells (“diaphragm units”) are made in Production Unit #7. Each product consists of a “cathode back-screen” and a “cathode pocket assembly.” The two components are then assembled to yield the finished cathode. The manufacturing operations are described below:

Cathode Back-Screen Fabrication: The perforated metal sheets and flat steel bars used for making back-screens are delivered by truck. The sheets are welded, punched and sheared to the correct dimensions. The flat steel bars are concurrently cut to the desired lengths. Finally, the bars are welded onto the metal sheeting to form a back-screen. The component is then transferred to the cathode assembly area.

Fabrication of the cathode back-screens (no SN) is an insignificant source of air emissions. The manufacturing activities are almost entirely mechanical in nature.

Cathode Pocket Fabrication: “Pocket metal” sheets, bolts, and bolt-rod assemblies are delivered by truck. The sheets are loaded onto an automated production line. The metal is then sheared, welded, formed and annealed. The bolts and bolt-rod assemblies are subsequently inserted. Finally, the cathode pockets are inspected, loaded onto a rack, and moved to the assembly area.

Fabrication of the cathode pockets (no SN) is an insignificant source of air emissions. These manufacturing activities are almost entirely mechanical in nature.

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A hand-held grinder is used to smooth the cathode pockets (SN-25) during the fabrication process. The grinding area is equipped with dust filter cartridges for the control of particulate emissions.

Assembly of Diaphragm Cathode Unit: After fabrication, the cathode pocket and backscreen are mechanically put together to yield the finished electrode. The finished unit is then stored pending shipment off-site. The cathode assembly operations (no SN) are an insignificant source of air emissions. These activities are almost entirely mechanical in nature. Several exhaust fans provide general ventilation for the Unit #7 assembly area.

MANUFACTURE OF MEMBRANE CELL ANODES AND CATHODES (PRODUCTION UNITS #6, #7, #8 AND MEMBRANE CELL UNIT)

Blue Cube makes a second type of chlor-alkali production cell (“membrane units”) at the Russellville facility. These products also consist of an anode and a cathode electrode. The manufacturing operations are performed within Production Units #6, #7, #8 and the Membrane Cell Unit. The process activities are described below:

Fabrication of Membrane Anodes: The anode electrodes for membrane cells consist primarily of metal screens. The mesh material is delivered by truck. The units are attached to a frame and then hung from a conveyor line.

The metal screens are first grit blasted to prepare them for surface coating. Aluminum oxide is used as the abrasive medium. The blasting room (SN-19) is equipped with dust filter cartridges for the control of particulate emissions. Afterwards, the units are taken off the conveyor line. The blasting frame is removed and a dipping bar is attached. The units are then washed with water (no SN) and allowed to air dry.

A dip coating process is used to apply layers of precious metals to the anode units. It is performed in Production Unit #6. The coating materials are dissolved in a solution of isopropyl alcohol and HCl. The coating mixture is prepared in the aforementioned two mix tanks (SN-22) and then stored in several holding tanks (SN-28).

The membrane cell anode is surface coated in a large dip tank (SN-20). The part is then transferred to an electric “hot box” (also SN-20) for drying. The unit is subsequently conveyed to an electric oven (SN-21) for curing. The dipping and baking process is repeated several times until the desired coating thickness is attained. The coated anode is then routed to the Membrane Cell Unit for final assembly. The electrode is transferred into and out of the dip tank, hot box, and curing oven using an overhead crane.

Fabrication of Membrane Cathodes: The cathode electrodes for membrane cells consist primarily of woven wire screens. The metal mesh is delivered by truck.

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The metal screens are grit blasted to prepare them for assembly. Aluminum oxide is used as the abrasive medium. The blasting room (SN-19) is equipped with a baghouse for the control of dust emissions.

Assembly of Membrane Cell Units: After coating, the cathode and anode units are mechanically put together. The finished membrane cell electrode is subsequently stored in the plant warehouse pending shipment to the customer.

The membrane cell assembly operations (no SN) are an insignificant source of air emissions. These activities are almost entirely mechanical in nature. Several exhaust fans provide general ventilation for the assembly area.

MISCELLANEOUS EQUIPMENT AND OPERATIONS

The Russellville facility features several miscellaneous production operations and emission sources. These items are described below:

Fueling Station: Various plant vehicles and equipment run on gasoline or diesel. The fueling station (SN-38) consists of two storage tanks: a 500-gallon gasoline tank; and, a 900-gallon diesel tank. The vessels are vented directly to the atmosphere. No air pollution control equipment is utilized.

Gasket Glue Removal Operation: Used membrane cell anodes are refurbished on-site. The old rubber gaskets on these metal components are removed at the point of origin. However, the electrode frames occasionally contain residual gasket adhesive when received at the Russellville facility. Two solvents, cyclohexane and “Bio-solve”, are used to clean the flange face and soften the adhesive residue to facilitate its removal. The solvents are manually applied using spray bottles and/or wiping cloths. After removal, the scrap adhesive is stored in a closed container pending shipment off-site for disposal. Fugitive VOC emissions are generated during the gasket glue removal operation (SN-39). It is performed within the Membrane Cell Unit.

Cell Putty Manufacturing Operation: A special putty material used in the refurbishing of M83 diaphragm anodes is manufactured on-site. Various ingredients, including asbestos fibers, are mechanically combined in a “compounder” unit to yield a tightly-encapsulated cell putty. The process equipment is equipped with a high-efficiency particulate arresting (HEPA) filter for the control of particulate emissions (including asbestos). The cell putty manufacturing operation (SN-40) is performed within the containment room for the M83 anode blasting operation (SN-11).

SOURCES OF AIR EMISSIONS

The manufacturing operations at the Blue Cube facility are a significant source of emissions of regulated air pollutants. These emissions are generated by the following industrial activities: the fabrication of reinforced polymer concrete electrode frames, covers and other components (emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs)); the application of precious metals to the anode and cathode units via solvent-based coating solutions

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(VOCs and/or HAPs); the operation of several resin, chemical and fuel storage tanks (VOCs and HAPs); various grit blasting and grinding activities (particulate emissions); and, a variety of miscellaneous industrial operations (emissions of criteria pollutants and HAPs).

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Regulations

The following table contains the regulations applicable to this permit.

| Regulations |
|--|
| Arkansas Air Pollution Control Code, Regulation 18, effective June 18, 2010 |
| Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective September 13, 2014 |
| Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective November 18, 2012 |
| 40 CFR Part 63, Subpart CCCCCC - <i>National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities</i> |
| 40 CFR Part 61, Subpart M - <i>National Emission Standards for Asbestos (SN-40)</i> |

The facility is not subject to 40 CFR Part 63, Subpart WWWW - *National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production* because the facility is not a major source of HAPs.

Emission Summary

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

| EMISSION SUMMARY | | | | |
|---------------------------|--------------------------------|-----------------------------------|----------------|-------------------|
| Source Number | Description | Pollutant | Emission Rates | |
| | | | lb/hr | tpy |
| Total Allowable Emissions | | PM | 2.6 | 4.0 |
| | | PM ₁₀ | 2.5 | 4.0 |
| | | SO ₂ | 0.1 | 0.1 |
| | | VOC | 110.2 | 166.1 |
| | | CO | 0.3 | 1.0 |
| | | NO _x | 0.3 | 1.2 |
| HAP _s | | Asbestos* | 0.04 | 0.1 |
| | | Hydrochloric Acid | N/A | 0.86 |
| | | Methylene Chloride | N/A | 9.50 |
| | | 1,1,1- Trichloroethane | N/A | 1.33 |
| | | Single HAP* | -- | 9.50 |
| | | Total HAPs* | -- | 23.75 |
| Air Contaminants ** | | Acetone** | N/A | 4.90 |
| 01 | Upper Sand Silo | Permanently Removed from Service. | | |
| 02A | Lower Sand Silo | PM | 0.4 | 0.1 |
| | | PM ₁₀ | 0.3 | 0.1 |
| 03A | Sand Transfer System | PM | 0.1 | 0.1 |
| | | PM ₁₀ | 0.1 | 0.1 |
| 04 | M83 Covers Grinding Operation | PM | 0.1 | 0.2 |
| | | PM ₁₀ | 0.1 | 0.2 |
| 05 | Dust Collector | Permanently Removed from Service. | | |
| 06 | M83 Frames Blasting Operation | PM | 0.1 | 0.4 |
| | | PM ₁₀ | 0.1 | 0.4 |
| 07 | Production Unit # 5 Operations | VOC | 55.4 | 16.2 |
| | | 1,1,1-Trichloroethane | N/A | 1.33 ² |
| | | Methylene Chloride | N/A | 9.50 ² |
| | | Acetone** | N/A | 4.90 |
| 08R | Casting Resin Storage Tank | VOC | 0.7 | 0.1 |
| 08A | Casting Resin Day Tank | VOC | 0.1 | 0.1 |
| 09 | Casting Resin Storage Tank # 2 | Permanently Removed from Service. | | |
| 09A | Casting Resin Containers | VOC | 0.1 | 0.1 |

| EMISSION SUMMARY | | | | |
|------------------|--|---|--|---|
| Source Number | Description | Pollutant | Emission Rates | |
| | | | lb/hr | tpy |
| 10 | Methylene Chloride Recovery Still | Permanently Removed from Service. | | |
| 10A | Methylene Chloride Storage Tank | Permanently Removed from Service. | | |
| 11 | M83 Anodes Blasting Operation | PM PM ₁₀ | 0.1 0.1 | 0.1 0.1 |
| 12 | Anode Dip Tank | VOC Hydrochloric Acid | 26.7 N/A | 147.3 ¹ 0.86 ² |
| 13 | Anode Bake Oven 2.6 MMBtu/hr | PM PM ₁₀ SO ₂ VOC CO NO _x | 0.1 0.1 0.1 0.1 0.3 0.3 | 0.1 0.1 0.1 0.1 1.0 1.2 |
| 14 | M83 Backboards Blasting Operation | PM PM ₁₀ | 0.5 0.5 | 2.2 2.2 |
| 15 | Fiberglass Transfer System | PM PM ₁₀ | 0.7 0.7 | 0.1 0.1 |
| 16 | Metal Flame Spray Coating Operation | PM PM ₁₀ | 0.1 0.1 | 0.3 0.3 |
| 17 | M83 Finish Grinding Operation | PM PM ₁₀ | 0.1 0.1 | 0.1 0.1 |
| 18 | Dip Tank Drying Area Vent | Permanently Removed from Service. | | |
| 19 | Membrane DAC Blasting Operation | PM PM ₁₀ | 0.1 0.1 | 0.1 0.1 |
| 20 & 21 | Membrane Cell Components Dip Tank and Electric Bake Oven | VOC Hydrochloric Acid | 3.6 N/A | 147.3 ¹ 0.86 ² |
| 22 & 23 | Mix Tank Exhaust Vent and Mix Room Exhaust Vent | VOC Hydrochloric Acid | 3.3 N/A | 147.3 ¹ 0.86 ² |
| 24 | Dust Collector | Permanently Removed from Service. | | |
| 25 | Diaphragm Cathode Grinding Operation | PM PM ₁₀ | 0.1 0.1 | 0.1 0.1 |
| 26 | Isopropanol Storage Tank | VOC | 6.3 | 147.3 ¹ |
| 28 | Coating Solvent Storage Mix Tanks and Day Tanks | VOC Hydrochloric Acid | 0.4 N/A | 147.3 ¹ 0.86 ² |

| EMISSION SUMMARY | | | | |
|------------------|-------------------------------|-----------------------------------|----------------|-------------------------|
| Source Number | Description | Pollutant | Emission Rates | |
| | | | lb/hr | tpy |
| 29 | Deleted Source | | | |
| 30 | Plating Solution Evaporator | Permanently Removed from Service. | | |
| 31 | Trash Incinerator | Permanently Removed from Service. | | |
| 32 | Grit Blasting Operation # 5 | Permanently Removed from Service. | | |
| 33 | Electric Oven | Permanently Removed from Service. | | |
| 34 | Paint Booth | Permanently Removed from Service. | | |
| 35 | Coating Solvent Mix Day Tank | Permanently Removed from Service. | | |
| 36 | DAC V Coating Operation | Permanently Removed from Service. | | |
| 37 | DAC III Coating Operation | Permanently Removed from Service. | | |
| 38 | Fueling Station | VOC Total HAP | 5.6 N/A | 0.2 0.1 ² |
| 39 | Gasket Glue Removal Operation | VOC | 7.0 | 1.8 |
| 40 | Cell Putty | PM | 0.1 | 0.1 |
| | | PM ₁₀ | 0.1 | 0.1 |
| | | VOC | 0.90 | 0.2 |
| | | Asbestos* | 0.04 | 0.10 |

* - HAPs included in the PM (Asbestos) or VOC totals. Other HAPs are not included in any other totals unless specifically stated.

** - Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

1 - Combined annual VOC emissions from sources: SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, & SN-28.

2 - Plantwide bubble of annual HAP emissions.

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SECTION III: PERMIT HISTORY

Air permit 0801-A was issued to Dow Chemical U.S.A. on 01/07/87 to consolidate various air permits held by the facility.

Air permit 0801-AR-1 was issued on 02/08/89 to remove two degreasing operations and add a process for oil coating of finished cathode assemblies.

Air permit 0801-AR-2 was issued on 03/14/90. This permit was to construct a production facility to manufacture metal components for membrane cells.

Air permit 0801-AR-3 was issued on 04/01/93. This permit was issued to account for changes in operating practices that lowered the facility emissions. This permit also included solvent emissions from storage tanks not previously permitted.

The permit was reissued as 0801-AR-4 on 04/21/94. This modification allowed for reduction of the annual allowable VOC emissions.

Permit 0801-AR-5 was issued on 12/07/94. The permit increased the production rate.

Permit 0801-AR-6 was issued on 04/06/99 and established Dow as a synthetic minor source in regards to Title V Regulations. The facility updated throughput rates and factors to limit emissions to below the Title V thresholds.

Permit 801-AOP-R0 was the first operating permit for this facility issued under Regulation #26 on 08/04/00. This permit allowed for a facility expansion to allow for greater production. This expansion established Dow as a major stationary source for VOC.

Permit 801-AOP-R1 was a minor modification to the Title V air permit issued on July 9, 2002. This minor modification allowed Dow to replace the existing resin storage tank (SN-09) with a new tank. No increase in permitted emissions resulted from this permit modification.

Permit 801-AOP-R2-AA was issued on January 4, 2005. Permit 801-AOP-R2 was issued on February 6, 2004. This minor modification authorized Dow to replace the existing 903 gallon resin day use tank (SN-08A) with a 595 gallon tank, replace the body and hopper of the Copper Flame Spray (SN-16), and remove the methylene storage tank (SN-10A). The annual permitted emission limits for methylene chloride decreased 0.7 tpy and emissions of particulate matter decreased 0.3 tpy.

Permit 801-AOP-R3 was issued on September 23, 2005. This Title V renewal included the replacement of two baghouses (SN-02 and SN-03), the establishment of permit limitations that “cap” the HAP emissions below the HAP major source thresholds, revision of VOC, PM/PM₁₀, and HAP emissions based on revised calculations, and removal of two sources, SN-18 and SN-24. Permitted emission changes included: decreases of PM, PM₁₀, VOC, acetic acid, and

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ammonia by 24.0 tons per year (tpy), 24.3 tpy, 70.3 tpy, 2.5 tpy, and 1.5 tpy respectively, and increases of acetone by 1.2 tpy.

Permit 801-AOP-R4 was issued on January 2, 2007, This modification included installation of a demister on the suction side of the exhaust blower on SN-22, and replacement of existing baghouse equipment (97% efficiency) on the grinding operation for SN-25 with new baghouse equipment (99% efficiency). There were no changes in permitted emissions.

Permit 801-AOP-R5 was issued January 30, 2008. This modification included the following:

1. An increase in the concentration limit for HCl from 0.40 lb/gal to 0.71 lb/gal to provide greater operational flexibility.
2. The hourly emission rates for VOC and HAPs were revised from the anode dip tank (SN-12), membrane cell component dip tank (SN-20), mix tank exhaust vent (SN-22), and coating solvent mixing storage tanks (SN-28).
3. The casting resin storage tank (SN-08) was replaced with a vertical fixed-roof tank (SN-08R).
4. Installation of two new coating solvent mix storage tanks (SN-28).
5. Utilization of the baghouse for M83 Covers Grinding Operation (SN-04) as an alternative control device for the sand weigh hopper (SN-03A). This contingency will provided greater operational flexibility and reduced the plant's maintenance workload.
6. Clarification of the source description for the M83 Covers Grinding Operation (SN-04). The VOC and HAP emissions generated with the casting resin mixer (SN-07) can be emitted from the nearby baghouse for the grinding area.
7. Remove methanol emissions from SN-27 as the rust preservative no longer contains methanol.
8. Remove the lower sand silo and sand weigh hopper (SN-02 and SN-03) from the permit.

There were no changes in yearly permitted emissions.

Permit 0801-AOP-R6 was issued May 22, 2009. This modification included an increase in the hourly rate of manufacture of anode electrodes for membrane-type chlorine cells. The affected emission sources were SN-12, SN-13, SN-20 through SN-23, and SN-26. HCl emissions were removed from SN-30 emission calculations due to neutralization. A vent hood for the Dip Coating Process (SN-37) was installed. This modification reduced permitted facility emissions of VOC and HCl by 7 tons per year and 8.96 tons per year respectively.

Permit 801-AOP-R7 was issued April 4, 2011. This was the second Title V Renewal permit for this facility. With the renewal, SN-28 was included in the bubbled plantwide limits for dip coating units, which decreased the VOC bubble from 150.9 tpy to 147.3 tpy, and decreased the Hydrogen Chloride bubble from 0.94 tpy to 0.86 tpy. With this modification, the facility added the Gasket Glue Removal Operation (SN-39) and removed sources SN-09, SN-10, SN-32, and SN-35. The total permitted emission increased by 1.3 tpy of PM₁₀, 0.44 tpy of Acetone, and 0.2 tpy of Ammonia. The total permitted emission of VOC decreased 2 tpy.

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Permit 801-AOP-R8 was issued December 20, 2011. This modification allowed the facility to install equipment to consolidate and control styrene and particulate emissions from several locations at SN-07 (polymer concrete casting operations) into a single vent stream, to use additional solvents in the gasket glue removal operations (SN-39), and to add an additional emission source SN-40 (Cell Putty). The total permitted emission increased by 0.1 tpy of PM/PM₁₀, 0.1 tpy Asbestos, and 0.3 tpy of VOC.

Permit 801-AOP-R9 was issued December 6, 2012. The facility requested an administrative amendment to add an Asphalt and Oil Blend Storage Tank to the insignificant activities list under Regulation 19, Appendix A-3 category. The total permitted emissions did not change with this permitting action.

SECTION IV: SPECIFIC CONDITIONS

Production Unit Operations

SN-07

Production Unit #5 Operations

Source Description

The Unit #5 ventilation system collects and emits styrene emissions from casting resin use, methyl chloroform (1,1,1-Trichloroethane) emissions from the coating of the molds, methylene chloride emissions from the cleaning of the mixer in the casting area, acetone emissions from the cleaning of hand tools and small parts within the casting area, and naphtha emissions from coating the flat surfaces of casting molds.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 3, 5, 9, 28 and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-------------------------------|-----------|-------|------|
| 07 | Production Unit #5 Operations | VOC | 55.4 | 16.2 |

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 3, 5, 7, and 9, Plantwide Condition 12, and equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-------------------------------|-----------------------|-------|-------|
| 07 | Production Unit #5 Operations | 1,1,1-Trichloroethane | N/A | 1.33* |
| | | Methylene Chloride | N/A | 9.50* |
| | | Acetone | N/A | 4.90 |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition # 12.

3. The permittee shall not use in excess of 250 gallons of solvent (which contains no more than 10.64 lb/gal methyl chloroform) in SN-07 during any consecutive twelve-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

4. The permittee shall maintain records which demonstrate compliance with the throughput and lb/gal limits set in Specific Condition 3. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705, 40 C.F.R. § 52 Subpart E and Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
5. The permittee shall not use in excess of 2,000 gallons of naphtha in SN-07 during any consecutive twelve-month period. [Reg.19.705, 40 C.F.R. § 70.6, Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
6. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition 5. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]
7. The permittee shall not use in excess of 1,500 gallons of acetone in SN-07 during any consecutive twelve-month period. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
8. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition 7. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
9. The permittee shall not use in excess of 1,725 gallons of Cleaning Solvent #1 which contains no more than 11.01 lb/gal methylene chloride in SN-07 during any consecutive twelve-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
10. The permittee shall maintain records which demonstrate compliance with the throughput and lb/gal limits set in Specific Condition 9. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705,40 C.F.R. § 52 Subpart E and Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-02A and SN-03A
 Silo and Sand Transfer System

Source Description

For SN-02A, a Torit baghouse is used to capture particulate from silica sand being transferred through a system to the production area.

For SN-03A, a Buell Norblo baghouse is used to remove particulate from sand prior to its use in the Unit #5 (polymer concrete casting) area.

Specific Conditions

11. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|-----|----------------------|------------------|-------|-----|
| 02A | Lower Sand Silo | PM ₁₀ | 0.3 | 0.1 |
| 03A | Sand Transfer System | PM ₁₀ | 0.1 | 0.1 |

12. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|-----|----------------------|-----------|-------|-----|
| 02A | Lower Sand Silo | PM | 0.4 | 0.1 |
| 03A | Sand Transfer System | PM | 0.1 | 0.1 |

13. The permittee shall not exceed 5% opacity from SN-02A and SN-03A as measured by EPA Reference Method 9. Compliance with this condition will be demonstrated by Plantwide Condition 7. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
14. The permittee shall have the ability to utilize the baghouse for M83 Covers Grinding Operation (SN-04) as an alternative control device for the sand transfer system (SN-03A). [Ark. Code Ann. §8-4-203 as referenced by §§8-4-304 and 8-4-311]

SN-13
 Anode Bake Oven

Source Description

A natural gas fired oven is used for baking anodes and heat treating metal parts. The baking oven is rated at 2.6 MM Btu/hr. This equipment has been permitted for maximum burner capacity.

Specific Conditions

15. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Condition 18. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-----------------|------------------|-------|-----|
| 13 | Anode Bake Oven | PM ₁₀ | 0.1 | 0.1 |
| | | SO ₂ | 0.1 | 0.1 |
| | | VOC | 0.1 | 0.1 |
| | | CO | 0.3 | 1.0 |
| | | NO _x | 0.3 | 1.2 |

16. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Condition 18. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-----------------|--------------|-------|-------|
| 13 | Anode Bake Oven | PM | 0.1 | 0.1 |
| | | Single HAPs* | N/A | 9.5 |
| | | Total HAPs* | N/A | 23.75 |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition # 12.

17. The permittee shall not exceed 5% opacity from SN-13 as measured by EPA Reference Method 9. Compliance with this condition will be demonstrated by Specific Condition 18 and equipment limitations. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

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18. The permittee shall only use pipeline-quality natural gas as fuel in SN-13. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

SN-15 and SN-16
 Transfer System and Coating Operation

Source Description

For SN-15, a vacuum is used to transfer chopped fiberglass from a bulk container into the Unit #5 polymer concrete mixer. This system is equipped with a separator cartridge filter rated at 97% particulate removal efficiency.

For SN-16, the anode backboard is coated with a thin layer of an electrically-conductive metal through a flame spray process. This coating process, where metal wire is melted and sprayed onto the backboard, lasts for several hours. Particulate (dust) from the coating activities is captured by an "American Air" hydrostatic precipitator. This control system cleans the air by combined action of centrifugal force and through intermixing of water and dust-laden air.

Specific Conditions

19. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-------------------------------------|------------------|-------|-----|
| 15 | Fiberglass Transfer System | PM ₁₀ | 0.7 | 0.1 |
| 16 | Metal Flame Spray Coating Operation | PM ₁₀ | 0.1 | 0.3 |

20. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-------------------------------------|-----------|-------|-----|
| 15 | Fiberglass Transfer System | PM | 0.7 | 0.1 |
| 16 | Metal Flame Spray Coating Operation | PM | 0.1 | 0.3 |

21. The permittee shall not exceed 5% opacity from SN-15 and SN-16 as measured by EPA Reference Method 9. Compliance with this condition will be demonstrated by Plantwide Condition 7. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Dip Tanks
 SN-12
 Anode Dip Tank

Source Description

Blasted anodes from the M-83 Anode Blast Building are transferred to Unit #6 where coatings are applied. The anodes are dipped several times in a tank filled with an isopropyl alcohol solution containing metal salts and anhydrous hydrochloric acid.

Specific Conditions

22. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 9 and 14. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E

| SN | Description | Pollutant | lb/hr | tpy |
|----|----------------|-----------|-------|--------------------|
| 12 | Anode Dip Tank | VOC | 26.7 | 147.3 ¹ |

¹Combined emissions from sources: SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, and SN-28.

23. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 10, 12, and 16. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|----|----------------|-------------------|-------|-------|
| 12 | Anode Dip Tank | Hydrochloric Acid | 0.09 | 0.86* |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition 12. The HCl emissions from the dip coating operations (SN-12, SN-20, SN-21, SN-22, SN-23 and SN-28) are covered under a plant-wide emissions bubble.

SN-20 and SN-21
 Membrane Cell Components Dip Tank and Electric Bake Oven

Source Description

This dip tank is used to apply solvent alcohol containing metal salts and hydrochloric acid to the membrane cells. Emissions include hanging and drying of the cell components. An electric oven is used to bake coated membrane cell components. It takes several hours to convert the coating on each batch from the Membrane Cell Dip Tank to the oxide form. Only one batch will fit into this oven each baking cycle.

Specific Conditions

24. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 9 and 14, and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|---------|--|-----------|-------|--------------------|
| 20 & 21 | Membrane Cell Components Dip Tank and Electric Bake Oven | VOC | 3.6 | 147.3 ¹ |

¹Combined emissions from sources: SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, and SN-28.

25. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 10, 12, and 16, and equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|---------|--|-------------------|-------|-------|
| 20 & 21 | Membrane Cell Components Dip Tank and Electric Bake Oven | Hydrochloric Acid | 0.10 | 0.86* |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition 12. The HCl emissions from the dip coating operations (SN-12, SN-20, SN-21, SN-22, SN-23 and SN-28) are covered under a plant-wide emissions bubble.

Tanks
 SN-08R, SN-08A, and SN-09A
 Casting Resin Storage Tank, Day Tank, and Containers

Source Description

For SN-08R, the Resin Storage Tank #1R (V-501) is a vertical, fixed roof insulated vessel with a total capacity of 14,300 gallons.

For SN-08A, the Resin Day Use Tank (V-502R) is a carbon steel vessel installed in 2003. This is a 4-foot diameter by 6.5-foot high, 595-gallon cylindrical atmospheric vessel equipped with Semi-elliptical heads and angle support legs. It is painted white and is used to mix resin. A three inch atmospheric vent pipe exits the top of the tank.

Styrene-based resins comprise approximately 20% of the castings in polymer concrete. The resins, which are delivered in 40,000 lb tanker trucks, are unloaded into a storage tank (SN-08R). The material is then pumped from the storage tank to the day use storage tank (SN-08A) for subsequent use in the Unit #5 (polymer concrete casting) area. The resins are also received in tote bins and 55 gallon drums (SN-09A).

Specific Conditions

26. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Condition 28 and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|-----|----------------------------|-----------|-------|-----|
| 08R | Casting Resin Storage Tank | VOC | 0.7 | 0.1 |
| 08A | Casting Resin Day Tank | VOC | 0.1 | 0.1 |
| 09A | Casting Resin Containers | VOC | 0.1 | 0.1 |

27. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Condition 28, Plantwide Condition 12, and equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|-----|----------------------------|-----------------------------|------------|--------------|
| 08R | Casting Resin Storage Tank | Single HAPs* Total HAPs* | N/A N/A | 9.5 23.75 |
| 08A | Casting Resin Day Tank | | | |
| 09A | Casting Resin Containers | | | |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition 12

28. The permittee shall not have a throughput in excess of 1,472,000 pounds of casting resins combined during any consecutive twelve-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
29. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition 28. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-22 and SN-23
 Mix Tank Exhaust Vent and Mix Room Exhaust Vent

Source Description

A mixture of hydrochloric acid and Isopropanol is pumped into two mixing vessels in the Chemical Mix Room. The mixing vessels are ducted to a blower that removes alcohol fumes. The fumes are generated during the batch mixing of raw materials with inorganic salts to prepare coating mixtures for the Unit #6 process. A demister is installed on the suction side of the exhaust blower to eliminate entrained liquid droplets which form in the vent stream under certain conditions.

A Mix Room exhaust blower is present to protect personnel from over-exposure to hydrochloric acid and isopropyl alcohol fumes during Unit #6 research testing operations on new coating formulations. Production type activities are rarely conducted under this exhaust system except occasionally when a need exists to coat a limited number of very small parts which cannot be coated in the large system.

Specific Conditions

30. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 9 and 14, and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|---------|---|-----------|-------|--------------------|
| 22 & 23 | Mix Tank Exhaust Vent and Mix Room Exhaust Vent | VOC | 3.3 | 147.3 ¹ |

¹ - Combined emissions from sources: SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, and SN-28.

31. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 10, 12, and 16, and equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|---------|---|-------------------|-------|-------|
| 22 & 23 | Mix Tank Exhaust Vent and Mix Room Exhaust Vent | Hydrochloric Acid | 0.01 | 0.86* |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition 12.

SN-26
Isopropanol Tank

Source Description

The isopropanol storage tank is a 9.0-foot (inside diameter) by 17-foot vertical vessel. The carbon steel tank is equipped with a conservation vent (pressure relief and vacuum breaker valve). During unloading activities, the vessel is vented back into the tanker truck.

Specific Conditions

32. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 9 and 14, and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|------------------|-----------|-------|--------------------|
| 26 | Isopropanol Tank | VOC | 6.3 | 147.3 ¹ |

¹Combined emissions from sources: SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, and SN-28.

SN-28
 Coating Solvent Storage Mix Tanks and Day Tanks

Source Description

A hydrochloric acid and isopropanol mixture is prepared in a vessel which is controlled with a nitrogen pad. The excess pressure is vented to the atmosphere once the vessel is filled with the mixture. There are a mixing tank, a mix storage tank, an emergency dump tank, a membrane day tank, and an anode day tank (all SN-28). Each tank is equipped nitrogen blanket and has its own vent.

The day tanks are used to store the hydrochloric acid, isopropanol, and inorganic salt mixture from the M-83 and Membrane Anode Mix Tanks. The tank is nitrogen padded and is vented directly to the atmosphere during filling operations. This tank is filled approximately several times each day.

Specific Conditions

33. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Condition 9 and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|--|-----------|-------|--------------------|
| 28 | Coating Solvent Storage Mix Tanks and Day Tank | VOC | 0.4 | 147.3 ¹ |

1 - Combined emissions from sources: SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, and SN-28.

34. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Plantwide Conditions 10, 12, and 16, and equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|----|--|-------------------|-------|-------|
| 28 | Coating Solvent Storage Mix Tanks and Day Tank | Hydrochloric Acid | 0.01 | 0.86* |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition 12.

Grinding Operations
 SN-04, SN-17, and SN-25
 Grinding Operations #1, #2, and #3

Source Description

For SN-04, a Buell Norblo bag dust arrester with a mechanical shaker and electrically controlled air reversal valve is used to control particulate matter emissions from the Grinding Room adjacent to Unit #5. This control equipment is 99% efficient. SN-04 is also an alternative control device for sand transfer system (SN-03A). Also, the emissions generated within the casting resin mixer (part of SN-07) may be emitted from the nearby baghouse for M83 Covers Grinding Operation. These emissions are accounted for at the Production Unit #5 operation (SN-07).

For SN-17, the system is located on the West side of the Unit #5 Building. A vacuum system collects particulate from the grinding of frames and covers in the Unit #5 Cell Finishing Area. The captured dust passes through a Hoffman baghouse, which is rated at 97% efficient in capturing particulate matter.

For SN-25, dust from the grinding activities is captured by dust cartridge.

Specific Conditions

35. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|--------------------------------------|------------------|-------|-----|
| 04 | M83 Covers Grinding Operation | PM ₁₀ | 0.1 | 0.2 |
| 17 | M83 Finish Grinding Operation | PM ₁₀ | 0.1 | 0.1 |
| 25 | Diaphragm Cathode Grinding Operation | PM ₁₀ | 0.1 | 0.1 |

36. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

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| SN | Description | Pollutant | lb/hr | Tpy |
|----|--------------------------------------|-----------|-------|-----|
| 04 | M83 Covers Grinding Operation | PM | 0.1 | 0.2 |
| 17 | M83 Finish Grinding Operation | PM | 0.1 | 0.1 |
| 25 | Diaphragm Cathode Grinding Operation | PM | 0.1 | 0.1 |

37. The permittee shall not exceed 5% opacity from SN-04, SN-17, and SN-25 as measured by EPA Reference Method 9. Compliance with this condition will be demonstrated by Plantwide Condition 7. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Grit Blasting Operations
 SN-06, SN-11, SN-14, and SN-19
 Grit Blasting Operations #1, #2, #3, and #4

Source Description

For SN-06, a Torit Jet continuous duty tube house dust collector captures particulate from the grit blasting of polymer concrete casting and metal plates. These blasting activities occur in a closed room. The baghouse captures dust generated by the grit breaking down during use.

For SN-11, a reworked aluminum oxide grit blaster located in the new M-83 Anode Blast Building is used to remove corrosion and old insulation from used diaphragm anode electrodes. Particulate generated from these activities is controlled using dust filter cartridges.

For health and safety purposes, the blasting debris is assumed to contain asbestos and is managed accordingly. M83 Anodes Blasting Operation is **NOT** subject to *40 CFR Part 61 Subpart M*. This is because the grit blasting operation does not satisfy the regulatory definitions of manufacturing, fabricating, demolition, renovation, or spraying activities.

For SN-14, an aluminum oxide grit blaster is used for blasting metal sheets. Particulate generated from these blasting activities is controlled using dust filter cartridges.

For SN-19, an aluminum oxide grit blaster is used to blast metal screens, which are used in the production of membrane cells. Particulate is controlled using dust filter cartridges.

Specific Conditions

38. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-----------------------------------|------------------|-------|-----|
| 06 | M83 Frames Blasting Operation | PM ₁₀ | 0.1 | 0.4 |
| 11 | M83 Anodes Blasting Operation | PM ₁₀ | 0.1 | 0.1 |
| 14 | M83 Backboards Blasting Operation | PM ₁₀ | 0.5 | 2.2 |
| 19 | Membrane DAC Blasting Operation | PM ₁₀ | 0.1 | 0.1 |

39. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by equipment limitations.

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| SN | Description | Pollutant | lb/hr | tpy |
|----|--------------------------------------|-----------|-------|-----|
| 06 | M83 Frames Blasting Operation | PM | 0.1 | 0.4 |
| 11 | M83 Anodes Blasting Operation | PM | 0.1 | 0.1 |
| 14 | M83 Backboards Blasting Operation | PM | 0.5 | 2.2 |
| 19 | Membrane DAC Blasting Operation | PM | 0.1 | 0.1 |

40. The permittee shall not exceed 5% opacity from SN-06, SN-11, SN-14, and SN-19 as measured by EPA Reference Method 9. Compliance with this condition will be demonstrated by Plantwide Condition 7. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Miscellaneous Sources
 SN-38
 Fueling Station

Source Description

The fueling station consists of two small horizontal storage vessels: a 500-gallon gasoline tank and a 900-gallon diesel fuel tank. The contents of these vessels are used to fuel facility equipment and vehicles.

Specific Conditions

41. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Conditions 43, 44 and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-----------------|-----------|-------|-----|
| 38 | Fueling Station | VOC | 5.6 | 0.2 |

42. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Conditions 43, 44, 46, Plantwide Condition 12, and equipment limitations. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-----------------|-----------|-------|------|
| 38 | Fueling Station | Total HAP | N/A | 0.2* |

* Plantwide Limit of 9.5 tpy of single HAP, 23.75 tpy of total HAPs. See Plantwide Condition 12.

43. The permittee shall not use in excess of 6,300 gallons of gasoline in SN-38 during any consecutive twelve-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
44. The permittee shall not use in excess of 11,000 gallons of diesel fuel in SN-38 during any consecutive twelve-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
45. The permittee shall maintain records which demonstrate compliance with the throughput limits set in Specific Conditions 43 and 44. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

NESHAP Requirements

46. This source is subject to regulation under 40 CFR Part 63, *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities*. These provisions include, but are not limited to, Specific Condition # 47. [Reg.19.304 and 40 C.F.R. § 63 Subpart CCCCCC]
47. §63.11116 – Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.
- (a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:
- (1) Minimize gasoline spills;
 - (2) Clean up spills as expeditiously as practicable;
 - (3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
 - (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.
- (b) You are not required to submit notifications or reports, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

SN-39
Gasket Glue Removal Operation

Source Description

The used anodes for chlorine production cells are refurbished on-site. The old rubber gaskets on these metal components are removed at the point of origin. The electrode frames occasionally contain residual gasket adhesive when the units arrive at the Russellville plant. Multiple solvents are used to soften the adhesive in order to clean the flange face and facilitate removal of the glue. The solvent is manually applied using spray bottles and/or wiping cloths. After removal, the scrap adhesive and any solvent-contaminated materials are stored in a closed container pending off-site disposal.

Specific Conditions

48. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by Specific Conditions 49 and equipment limitations. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-------------------------------|-----------|-------|-----|
| 39 | Gasket Glue Removal Operation | VOC | 7.0 | 1.8 |

49. The permittee shall not use in excess of 3,500 pounds of solvent at SN-39 during any consecutive twelve-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
50. The permittee shall maintain records which demonstrate compliance with the throughput limits set in Specific Condition 49. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-40
 Cell Putty Manufacturing Operation

Source Description

Contained in the M83 Anode Blasting Containment Room (SN-11) is a process to make Cell Putty. Various materials including asbestos are mechanically added to the compounder to produce the tightly encapsulated cell putty. A HEPA filter with minimum efficiency of 99.97% is utilized to control particulate emissions (which include asbestos). This source is subject to NESHAP, 40 C.F.R. § 61 Subpart M: National Emission Standard for Asbestos.

Specific Conditions

51. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 54, 55 and 58. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | tpy |
|----|------------------------------------|------------------|-------|-----|
| 40 | Cell Putty Manufacturing Operation | PM ₁₀ | 0.1 | 0.1 |
| | | VOC | 0.9 | 0.2 |

52. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 54 and 55. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | tpy |
|----|-------------|-----------|-------|------|
| 40 | Cell Putty | PM | 0.1 | 0.1 |
| | | Asbestos | 0.04 | 0.10 |

53. The permittee shall not exceed 0% opacity from SN-40. Compliance with this condition will be demonstrated by Specific Conditions 59, 60 and 61. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
54. The permittee shall not manufacture more than 100 tons of cell putty per any consecutive 12-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
55. The permittee shall not have a throughput in excess of 7 tons of asbestos fiber during any consecutive 12-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

56. The permittee shall maintain records which demonstrate compliance with the manufacturing and throughput limits set in Specific Conditions 54 and 55. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

NESHAP Conditions

57. This source (SN-40) is subject to regulation under 40 C.F.R. Pt. 61, National Emission Standard for Asbestos and must comply with the following provisions. These provisions include, but are not limited to, Specific Conditions 58 through 66. [Reg.19.304 and 40 C.F.R. § 63.144 (a)(7)]
58. The permittee shall 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. The permittee has chosen to use a HEPA filter. The HEPA filter must be certified to be at least 99.97 percent efficient for 0.3 micron particles. [Reg.19.304 and 40 C.F.R. §§61.144(b) (2), 61.152(b)(2)]
59. When SN-40 is in operation, the permittee shall 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. If the permittee detects visible emissions that exceed the limit, then the permittee must immediately take action to identify and correct the cause of the visible emissions. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emission exceedance and the corrective action taken. The permittee must keep the records in accordance with Specific Condition 62 onsite and make the records available to Department personnel upon request. [Reg.19.304, Reg.18.1004, Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311, and 40 C.F.R. 61.144(b) (3)]
60. When SN-40 is in operation, The permittee shall 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 [Reg.19.304 and 40 C.F.R. § 61.144(b) (4)]:
- a. Maintenance schedule.

b. Recordkeeping plan.

61. 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 of 40 C.F.R. Pt. 61 Subpart M and include the following. [Reg.19.304 and 40 C.F.R. §61.144(b) (5)]
- a. Date and time of each inspection.
 - b. Presence or absence of visible emissions.
 - c. Condition of fabric filters, including presence of any tears, holes and abrasions.
 - d. Presence of dust deposits on clean side of fabric filters.
 - e. Brief description of corrective actions taken, including date and time.
 - f. Daily hours of operation for each air cleaning device.
 - g. Brief description of corrective actions taken, including date and time.
 - h. Daily hours of operation for each air cleaning device.

If SN-40 is not in operation, the permittee shall note in the records that visible emissions monitoring and air cleaning inspections were not performed for the dates for which the process was shut down.

62. The permittee shall furnish upon request, and make available at the affected facility during normal business hours for inspection by the Department, all records required under 40 C.F.R. Pt. 61 Subpart M. [Reg.19.304 and 40 C.F.R. §61.144(b) (6)]
63. The permittee shall retain a copy of all monitoring and inspection records for at least 2 years following the date of the record. [Reg.19.304 and 40 C.F.R. §61.144(b) (7)]
64. The permittee shall submit semiannually a copy of the visible emission monitoring records to the Department if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period. Records shall be submitted in accordance with General Provision 7. [Reg.19.304 and 40 C.F.R. §61.144(b)(8)]
65. The permittee who uses air cleaning, as specified in §61.144(b)(2) shall properly install, use, operate, and maintain all air-cleaning equipment. 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. [Reg.19.304 and 40 C.F.R. §61.152(a)(2)]
66. The permittee shall provide the following information to the Department postmarked or delivered within 90 days of the initial startup date. [Reg.19.304 and 40 C.F.R. §61.153]
- a. A description of the emission control equipment used for each process; and
 - b. The HEPA filter's certified efficiency.

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SECTION V: COMPLIANCE PLAN AND SCHEDULE

Blue Cube Operations LLC will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Reg.19.704, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Reg.19.410(B) and 40 C.F.R. § 52 Subpart E]
3. The permittee must test any equipment scheduled for testing, unless otherwise stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) business days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) calendar days after completing the testing. [Reg.19.702 and/or Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
4. The permittee must provide:
 - a. Sampling ports adequate for applicable test methods;
 - b. Safe sampling platforms;
 - c. Safe access to sampling platforms; and
 - d. Utilities for sampling and testing equipment.

[Reg.19.702 and/or Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Reg. 26 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

7. The permittee will conduct weekly observations of the opacity from the following sources: SN-02A, SN-03A, SN-04, SN-06, SN-11, SN-14, SN-15, SN-16, SN-17, SN-19 and SN-25. A record of these observations shall be kept. If the permittee detects visible emissions that exceed the limit, then the permittee must immediately take action to identify and correct the cause of the visible emissions. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emission exceedance and the corrective action taken. The permittee must keep the records on-site and make the records available to Department personnel upon request. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
8. The permittee shall ensure that all calculations performed under the requirements of this permit are of sufficient accuracy to ensure that no applicable regulatory emission thresholds are exceeded. [Reg.19.405(B), Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]
9. The permittee shall not use in excess of 46,000 gallons of solvent/coating solution which contain no more than 7.0 lb/gal of VOC at the facility during any consecutive twelve-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
10. The permittee shall not use solvent/coating solution which contains no more than 0.71 lb/gal of hydrochloric acid at SN-12, SN-20, SN-21, SN-22, SN-23, and SN-28 during any consecutive twelve-month period. [Reg.18.801 and Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]
11. The permittee shall maintain records which demonstrate compliance with the throughput and lb/gal limit set in Plantwide Conditions 9 and 10. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.18.1004 and Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]
12. The permittee shall not exceed the Plantwide HAP emission rates set forth in the following table in a twelve-month rolling period. Compliance with these limitations is assured in accordance with Plantwide Condition 13. [Reg.18.801 and Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]

| Source | Single HAP (tpy) | Combined HAPs (tpy) |
|----------|------------------|---------------------|
| Facility | 9.5 | 23.75 |

13. The permittee shall maintain records which can be used to demonstrate compliance with Plantwide Condition 12. These records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A 12-month rolling total and each

individual month's data shall be submitted in accordance with General Provision 7. [Reg.18.801 and Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]

14. The permittee shall not exceed a VOC limit of 147.3 tons per year at SN-12, SN-20, SN-21, SN-22, SN-23, SN-26, and SN-28 combined per consecutive twelve month period. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]
15. The permittee shall maintain records which demonstrate compliance with Plantwide Condition 14. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]
16. The permittee shall not exceed a HCL limit of 0.86 tons per year at SN-12, SN-20, SN-21, SN-22, SN-23, and SN-28 combined per consecutive twelve month period. [Reg.18.801 and Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]
17. The permittee shall maintain records which demonstrate compliance with Plantwide Condition 16. These records may be used by the Department for enforcement purposes. A 12-month rolling total and each individual month's data shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Provision 7. [Reg.18.1004 and Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]
18. The permittee shall maintain a copy of the confidential supporting documents, pertaining to sources SN-07, SN-12, SN-20, SN-22, SN-28, and SN-39. The permittee shall keep the records onsite, and make the records available to Department personnel upon request. [Reg.19.705 and Ark. Code Ann. §8-4-203 as referenced by Ark. Code Ann. §§8-4-304 and 8-4-311]

Title VI Provisions

19. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 C.F.R. Pt. 82, Subpart E]
 - a. All containers containing a class I or class II substance 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 to interstate commerce pursuant to §82.106.
 - b. The placement of the 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.
20. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 C.F.R. Pt. 82, Subpart F]
 - 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.
 - 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.
21. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 C.F.R. Pt. 82, Subpart A, Production and Consumption Controls.
22. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 C.F.R. pt. 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 the system used on passenger buses using HCFC 22 refrigerant.
23. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 C.F.R. Pt. 82, Subpart G.

Permit Shield

24. 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 the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application dated October 2, 2015.

Applicable Regulations

| Source No. | Regulation | Description |
|------------|------------------------------|--|
| Facility | Arkansas Regulation #19 | Regulations of the Arkansas Plan of Implementation for Air Pollution Control |
| Facility | Arkansas Regulation #26 | Regulations of the Arkansas Operating Air Permit Program |
| SN-38 | 40 C.F.R. §63, Subpart CCCCC | National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities |
| SN-40 | 40 C.F.R. §61, Subpart M | National Emission Standard for Asbestos |

The permit specifically identifies the following as inapplicable based upon information submitted by the permittee in an application dated October 2, 2015.

Inapplicable Regulations

| Source No. | Regulation | Description |
|------------------------|-----------------------------|---|
| SN-26, SN-28 and SN-38 | 40 C.F.R. §60, Subpart Kb | Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 |
| SN-11 | 40 C.F.R. §61, Subpart M | National Emission Standard for Asbestos |
| SN-07 | 40 C.F.R. §63, Subpart T | National Emission Standard for Halogenated Solvent Cleaning |
| Facility | 40 C.F.R. §63, Subpart T | National Emission Standards for Halogenated Solvent Cleaning |
| Facility | 40 C.F.R. §63, Subpart MMMM | National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products |

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| Source No. | Regulation | Description |
|---|----------------------------------|--|
| Facility | 40 C.F.R. §63, Subpart WWWW | National Emission Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production |
| SN-16 | 40 C.F.R. §63, Subpart HHHHH | National Emission Standards For Hazardous Air Pollutants: Paint Stripping And Miscellaneous Surface Coating Operations At Area Sources |
| SN-12, SN-16 & SN-20 | 40 C.F.R. §63, Subpart WWWWW | National Emission Standards For Hazardous Air Pollutants: Area Source Standards For Plating And Polishing Operations |
| SN-04, SN-06, SN-11, SN-17, & SN-25 | 40 C.F.R. §63, Subpart XXXXXX | National Emission Standards For Hazardous Air Pollutants Area Source Standards For Nine Metal Fabrication And Finishing Source Categories |
| Facility | 40 C.F.R. §52.21 | Prevention of Significant Deterioration |
| Facility | 40 C.F.R. §64 | Compliance Assurance Monitoring |
| Facility | 40 C.F.R. §68 | Chemical Accident Prevention Provisions |

SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of Reg.26.304 or is listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated October 2, 2015.

| Description | Category |
|--|----------|
| Asphalt and Oil Blend Storage Tank (No SN) | A-3 |
| Welding of cathode back-screens (No SN) | A-7 |
| Welding of cathode pockets (No SN) | A-7 |
| Membrane cell assembly (No SN) | A-7 |
| Hand held grinding operation at anode repair (No SN) | A-13 |
| Cathode assembly (No SN) | A-13 |
| Grinding Operation for Membrane Cell Repair (No SN) | A-13 |
| Cathode Oil-Coating Operations | A-13 |

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 C.F.R. § 70.6(b)(2)]
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. [40 C.F.R. § 70.6(a)(2) and Reg.26.701(B)]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will 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. [Reg.26.406]
4. 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, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 C.F.R. § 70.6(a)(1)(ii) and Reg.26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit.
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses performed;
 - c. The company or entity performing 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.

[40 C.F.R. § 70.6(a)(3)(ii)(A) and Reg.26.701(C)(2)]

6. The permittee must retain the records of all required monitoring data and support information for at least five (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. [40 C.F.R. § 70.6(a)(3)(ii)(B) and Reg.26.701(C)(2)(b)]
7. The permittee must submit reports of all required monitoring every six (6) months. If the permit establishes no other reporting period, the reporting period shall end on the last day of the month six months after the issuance of the initial Title V permit and every six months thereafter. The report is due on the first day of the second month after the end of the reporting period. The first report due after issuance of the initial Title V permit shall contain six months of data and each report thereafter shall contain 12 months of data. The report shall contain data for all monitoring requirements in effect during the reporting period. If a monitoring requirement is not in effect for the entire reporting period, only those months of data in which the monitoring requirement was in effect are required to be reported. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Reg.26.2 must certify all required reports. The permittee will send the reports to the address below:

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
5301 Northshore Drive
North Little Rock, AR 72118-5317

[40 C.F.R. § 70.6(a)(3)(iii)(A) and Reg.26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
 - a. For all upset conditions (as defined in Reg.19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
 - i. The facility name and location;
 - ii. The process unit or emission source deviating from the permit limit;
 - iii. The permit limit, including the identification of pollutants, from which deviation occurs;
 - iv. The date and time the deviation started;
 - v. The duration of the deviation;
 - vi. The emissions during the deviation;
 - vii. The probable cause of such deviations;
 - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and

ix. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Reg.19.601, Reg.19.602, Reg.26.701(C)(3)(b), and 40 C.F.R. § 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will 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. [40 C.F.R. § 70.6(a)(5), Reg.26.701(E), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 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, for permit modification; or for denial of a permit renewal application. [40 C.F.R. § 70.6(a)(6)(i) and Reg.26.701(F)(1)]
11. 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 to maintain compliance with the conditions of this permit. [40 C.F.R. § 70.6(a)(6)(ii) and Reg.26.701(F)(2)]
12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 C.F.R. § 70.6(a)(6)(iii) and Reg.26.701(F)(3)]
13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 C.F.R. § 70.6(a)(6)(iv) and Reg.26.701(F)(4)]

14. The permittee must 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 must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 C.F.R. § 70.6(a)(6)(v) and Reg.26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 C.F.R. § 70.6(a)(7) and Reg.26.701(G)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 C.F.R. § 70.6(a)(8) and Reg.26.701(H)]
17. If the permit allows 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 operational scenario. [40 C.F.R. § 70.6(a)(9)(i) and Reg.26.701(I)(1)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 C.F.R. § 70.6(b) and Reg.26.702(A) and (B)]
19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Reg.26.2. [40 C.F.R. § 70.6(c)(1) and Reg.26.703(A)]
20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 C.F.R. § 70.6(c)(2) and Reg.26.703(B)]
 - 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 required 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 assuring compliance with this permit or applicable requirements.

21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually. If the permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due on the first day of the second month after the end of the reporting period. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 C.F.R. § 70.6(c)(5) and Reg.26.703(E)(3)]
 - 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.

22. Nothing in this permit will alter or affect the following: [Reg.26.704(C)]
 - 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.

23. This permit authorizes only those pollutant emitting activities addressed in this permit. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:
 - a. Such an extension does not violate a federal requirement;
 - b. The permittee demonstrates the need for the extension; and
 - c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Reg.18.314(A), Reg.19.416(A), Reg.26.1013(A), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:
- a. Such a request does not violate a federal requirement;
 - b. Such a request is temporary in nature;
 - c. Such a request will not result in a condition of air pollution;
 - d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
 - e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
 - f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Reg.18.314(B), Reg.19.416(B), Reg.26.1013(B), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:
- a. The request does not violate a federal requirement;
 - b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
 - c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Reg.18.314(C), Reg.19.416(C), Reg.26.1013(C), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

Blue Cube Operations LLC
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AFIN: 58-00011

Appendix A
40 CFR Part 63, Subpart CCCCCC - *National Emission Standards for Hazardous Air Pollutants
for Source Category: Gasoline Dispensing Facilities*

e-CFR data is current as of October 30, 2015

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart CCCCCC—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

WHAT THIS SUBPART COVERS

§63.11110 What is the purpose of this subpart?

This subpart establishes national emission limitations and management practices for hazardous air pollutants (HAP) emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF). This subpart also establishes requirements to demonstrate compliance with the emission limitations and management practices.

§63.11111 Am I subject to the requirements in this subpart?

(a) The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.

(b) If your GDF has a monthly throughput of less than 10,000 gallons of gasoline, you must comply with the requirements in §63.11116.

(c) If your GDF has a monthly throughput of 10,000 gallons of gasoline or more, you must comply with the requirements in §63.11117.

(d) If your GDF has a monthly throughput of 100,000 gallons of gasoline or more, you must comply with the requirements in §63.11118.

(e) An affected source shall, upon request by the Administrator, demonstrate that their monthly throughput is less than the 10,000-gallon or the 100,000-gallon threshold level, as applicable. For new or reconstructed affected sources, as specified in §63.11112(b) and (c), recordkeeping to document monthly throughput must begin upon startup of the affected source. For existing sources, as specified in §63.11112(d), recordkeeping to document monthly throughput must begin on January 10, 2008. For existing sources that are subject to this subpart only because they load gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, recordkeeping to document monthly throughput must begin on January 24, 2011. Records required under this paragraph shall be kept for a period of 5 years.

(f) If you are an owner or operator of affected sources, as defined in paragraph (a) of this section, you are not required to obtain a permit under 40 CFR part 70 or 40 CFR part 71 as a result of being subject to this subpart. However, you must still apply for and obtain a permit under 40 CFR part 70 or 40 CFR part 71 if you meet one or more of the applicability criteria found in 40 CFR 70.3(a) and (b) or 40 CFR 71.3(a) and (b).

(g) The loading of aviation gasoline into storage tanks at airports, and the subsequent transfer of aviation gasoline within the airport, is not subject to this subpart.

(h) Monthly throughput is the total volume of gasoline loaded into, or dispensed from, all the gasoline storage tanks located at a single affected GDF. If an area source has two or more GDF at separate locations within the area source, each GDF is treated as a separate affected source.

(i) If your affected source's throughput ever exceeds an applicable throughput threshold, the affected source will remain subject to the requirements for sources above the threshold, even if the affected source throughput later falls below the applicable throughput threshold.

(j) The dispensing of gasoline from a fixed gasoline storage tank at a GDF into a portable gasoline tank for the on-site delivery and subsequent dispensing of the gasoline into the fuel tank of a motor vehicle or other gasoline-fueled engine or equipment used within the area source is only subject to §63.11116 of this subpart.

(k) For any affected source subject to the provisions of this subpart and another Federal rule, you may elect to comply only with the more stringent provisions of the applicable subparts. You must consider all provisions of the rules, including monitoring, recordkeeping, and reporting. You must identify the affected source and provisions with which you will comply in your Notification of Compliance Status required under §63.11124. You also must demonstrate in your Notification of Compliance Status that each provision with which you will comply is at least as stringent as the otherwise applicable requirements in this subpart. You are responsible for making accurate determinations concerning the more stringent provisions, and noncompliance with this rule is not excused if it is later determined that your determination was in error, and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the Notification of Compliance Status does not alter or affect that responsibility.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4181, Jan. 24, 2011]

§63.11112 What parts of my affected source does this subpart cover?

(a) The emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing GDF that meet the criteria specified in §63.11111. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart.

(b) An affected source is a new affected source if you commenced construction on the affected source after November 9, 2006, and you meet the applicability criteria in §63.11111 at the time you commenced operation.

(c) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2.

(d) An affected source is an existing affected source if it is not new or reconstructed.

§63.11113 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraphs (a)(1) and (2) of this section, except as specified in paragraph (d) of this section.

(1) If you start up your affected source before January 10, 2008, you must comply with the standards in this subpart no later than January 10, 2008.

(2) If you start up your affected source after January 10, 2008, you must comply with the standards in this subpart upon startup of your affected source.

(b) If you have an existing affected source, you must comply with the standards in this subpart no later than January 10, 2011.

(c) If you have an existing affected source that becomes subject to the control requirements in this subpart because of an increase in the monthly throughput, as specified in §63.11111(c) or §63.11111(d), you must comply with the standards in this subpart no later than 3 years after the affected source becomes subject to the control requirements in this subpart.

(d) If you have a new or reconstructed affected source and you are complying with Table 1 to this subpart, you must comply according to paragraphs (d)(1) and (2) of this section.

(1) If you start up your affected source from November 9, 2006 to September 23, 2008, you must comply no later than September 23, 2008.

(2) If you start up your affected source after September 23, 2008, you must comply upon startup of your affected source.

(e) The initial compliance demonstration test required under §63.11120(a)(1) and (2) must be conducted as specified in paragraphs (e)(1) and (2) of this section.

(1) If you have a new or reconstructed affected source, you must conduct the initial compliance test upon installation of the complete vapor balance system.

(2) If you have an existing affected source, you must conduct the initial compliance test as specified in paragraphs (e)(2)(i) or (e)(2)(ii) of this section.

(i) For vapor balance systems installed on or before December 15, 2009, you must test no later than 180 days after the applicable compliance date specified in paragraphs (b) or (c) of this section.

(ii) For vapor balance systems installed after December 15, 2009, you must test upon installation of the complete vapor balance system.

(f) If your GDF is subject to the control requirements in this subpart only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must comply with the standards in this subpart as specified in paragraphs (f)(1) or (f)(2) of this section.

(1) If your GDF is an existing facility, you must comply by January 24, 2014.

(2) If your GDF is a new or reconstructed facility, you must comply by the dates specified in paragraphs (f)(2)(i) and (ii) of this section.

(i) If you start up your GDF after December 15, 2009, but before January 24, 2011, you must comply no later than January 24, 2011.

(ii) If you start up your GDF after January 24, 2011, you must comply upon startup of your GDF.

EMISSION LIMITATIONS AND MANAGEMENT PRACTICES

§63.11115 What are my general duties to minimize emissions?

Each owner or operator of an affected source under this subpart must comply with the requirements of paragraphs (a) and (b) of this section.

(a) You must, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You must keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b).

[76 FR 4182, Jan. 24, 2011]

§63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(1) Minimize gasoline spills;

(2) Clean up spills as expeditiously as practicable;

(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

(b) You are not required to submit notifications or reports as specified in §63.11125, §63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(c) You must comply with the requirements of this subpart by the applicable dates specified in §63.11113.

(d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

§63.11117 Requirements for facilities with monthly throughput of 10,000 gallons of gasoline or more.

(a) You must comply with the requirements in section §63.11116(a).

(b) Except as specified in paragraph (c) of this section, you must only load gasoline into storage tanks at your facility by utilizing submerged filling, as defined in §63.11132, and as specified in paragraphs (b)(1), (b)(2), or (b)(3) of this section. The applicable distances in paragraphs (b)(1) and (2) shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank.

(1) Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank.

(2) Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank.

(3) Submerged fill pipes not meeting the specifications of paragraphs (b)(1) or (b)(2) of this section are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit.

(c) Gasoline storage tanks with a capacity of less than 250 gallons are not required to comply with the submerged fill requirements in paragraph (b) of this section, but must comply only with all of the requirements in §63.11116.

(d) You must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(e) You must submit the applicable notifications as required under §63.11124(a).

(f) You must comply with the requirements of this subpart by the applicable dates contained in §63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011]

§63.11118 Requirements for facilities with monthly throughput of 100,000 gallons of gasoline or more.

(a) You must comply with the requirements in §§63.11116(a) and 63.11117(b).

(b) Except as provided in paragraph (c) of this section, you must meet the requirements in either paragraph (b)(1) or paragraph (b)(2) of this section.

(1) Each management practice in Table 1 to this subpart that applies to your GDF.

(2) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(2)(i) and (ii) of this section, you will be deemed in compliance with this subsection.

(i) You operate a vapor balance system at your GDF that meets the requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

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(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(c) The emission sources listed in paragraphs (c)(1) through (3) of this section are not required to comply with the control requirements in paragraph (b) of this section, but must comply with the requirements in §63.11117.

(1) Gasoline storage tanks with a capacity of less than 250 gallons that are constructed after January 10, 2008.

(2) Gasoline storage tanks with a capacity of less than 2,000 gallons that were constructed before January 10, 2008.

(3) Gasoline storage tanks equipped with floating roofs, or the equivalent.

(d) Cargo tanks unloading at GDF must comply with the management practices in Table 2 to this subpart.

(e) You must comply with the applicable testing requirements contained in §63.11120.

(f) You must submit the applicable notifications as required under §63.11124.

(g) You must keep records and submit reports as specified in §§63.11125 and 63.11126.

(h) You must comply with the requirements of this subpart by the applicable dates contained in §63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008]

TESTING AND MONITORING REQUIREMENTS

§63.11120 What testing and monitoring requirements must I meet?

(a) Each owner or operator, at the time of installation, as specified in §63.11113(e), of a vapor balance system required under §63.11118(b)(1), and every 3 years thereafter, must comply with the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on your gasoline storage tanks using the test methods identified in paragraph (a)(1)(i) or paragraph (a)(1)(ii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E,—Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, adopted October 8, 2003 (incorporated by reference, see §63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

(2) You must demonstrate compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart for your vapor balance system by conducting a static pressure test on your gasoline storage tanks using the test methods identified in paragraphs (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.3,—Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996, and amended March 17, 1999 (incorporated by reference, see §63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

(iii) Bay Area Air Quality Management District Source Test Procedure ST-30—Static Pressure Integrity Test—Underground Storage Tanks, adopted November 30, 1983, and amended December 21, 1994 (incorporated by reference, see §63.14).

(b) Each owner or operator choosing, under the provisions of §63.6(g), to use a vapor balance system other than that described in Table 1 to this subpart must demonstrate to the Administrator or delegated authority under paragraph §63.11131(a) of this subpart, the equivalency of their vapor balance system to that described in Table 1 to this subpart using the procedures specified in paragraphs (b)(1) through (3) of this section.

(1) You must demonstrate initial compliance by conducting an initial performance test on the vapor balance system to demonstrate that the vapor balance system achieves 95 percent reduction using the California Air Resources Board Vapor Recovery Test Procedure TP-201.1,—Volumetric Efficiency for Phase I Vapor Recovery Systems, adopted April 12, 1996, and amended February 1, 2001, and October 8, 2003, (incorporated by reference, see §63.14).

(2) You must, during the initial performance test required under paragraph (b)(1) of this section, determine and document alternative acceptable values for the leak rate and cracking pressure requirements specified in item 1(g) of Table 1 to this subpart and for the static pressure performance requirement in item 1(h) of Table 1 to this subpart.

(3) You must comply with the testing requirements specified in paragraph (a) of this section.

(c) Conduct of performance tests. Performance tests conducted for this subpart shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (*i.e.*, performance based on normal operating conditions) of the affected source. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(d) Owners and operators of gasoline cargo tanks subject to the provisions of Table 2 to this subpart must conduct annual certification testing according to the vapor tightness testing requirements found in §63.11092(f).

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

NOTIFICATIONS, RECORDS, AND REPORTS

§63.11124 What notifications must I submit and when?

(a) Each owner or operator subject to the control requirements in §63.11117 must comply with paragraphs (a)(1) through (3) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11117, unless you meet the requirements in paragraph (a)(3) of this section. If your affected source is subject to the control requirements in §63.11117 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (a)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

(i) The name and address of the owner and the operator.

(ii) The address (*i.e.*, physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11117 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, within 60 days of the applicable compliance date specified in §63.11113, unless you meet the requirements in paragraph (a)(3) of this section. The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facilities' monthly throughput is calculated based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (a)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (a)(1) of this section.

(3) If, prior to January 10, 2008, you are operating in compliance with an enforceable State, local, or tribal rule or permit that requires submerged fill as specified in §63.11117(b), you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (a)(1) or paragraph (a)(2) of this section.

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(b) Each owner or operator subject to the control requirements in §63.11118 must comply with paragraphs (b)(1) through (5) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11118. If your affected source is subject to the control requirements in §63.11118 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (b)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11118 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, in accordance with the schedule specified in §63.9(h). The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facility's throughput is determined based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (b)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (b)(1) of this section.

(3) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(3)(i) and (ii) of this section, you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (b)(1) or paragraph (b)(2) of this subsection.

(i) You operate a vapor balance system at your gasoline dispensing facility that meets the requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(4) You must submit a Notification of Performance Test, as specified in §63.9(e), prior to initiating testing required by §63.11120(a) and (b).

(5) You must submit additional notifications specified in §63.9, as applicable.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011]

§63.11125 What are my recordkeeping requirements?

(a) Each owner or operator subject to the management practices in §63.11118 must keep records of all tests performed under §63.11120(a) and (b).

(b) Records required under paragraph (a) of this section shall be kept for a period of 5 years and shall be made available for inspection by the Administrator's delegated representatives during the course of a site visit.

(c) Each owner or operator of a gasoline cargo tank subject to the management practices in Table 2 to this subpart must keep records documenting vapor tightness testing for a period of 5 years. Documentation must include each of the items specified in §63.11094(b)(2)(i) through (viii). Records of vapor tightness testing must be retained as specified in either paragraph (c)(1) or paragraph (c)(2) of this section.

(1) The owner or operator must keep all vapor tightness testing records with the cargo tank.

(2) As an alternative to keeping all records with the cargo tank, the owner or operator may comply with the requirements of paragraphs (c)(2)(i) and (ii) of this section.

(i) The owner or operator may keep records of only the most recent vapor tightness test with the cargo tank, and keep records for the previous 4 years at their office or another central location.

(ii) Vapor tightness testing records that are kept at a location other than with the cargo tank must be instantly available (*e.g.*, via e-mail or facsimile) to the Administrator's delegated representative during the course of a site visit or within a mutually agreeable time frame. Such records must be an exact duplicate image of the original paper copy record with certifying signatures.

(d) Each owner or operator of an affected source under this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

(1) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

§63.11126 What are my reporting requirements?

(a) Each owner or operator subject to the management practices in §63.11118 shall report to the Administrator the results of all volumetric efficiency tests required under §63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing.

(b) Each owner or operator of an affected source under this subpart shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred.

[76 FR 4183, Jan. 24, 2011]

OTHER REQUIREMENTS AND INFORMATION

§63.11130 What parts of the General Provisions apply to me?

Table 3 to this subpart shows which parts of the General Provisions apply to you.

§63.11131 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as the applicable State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are as specified in paragraphs (c)(1) through (3) of this section.

(1) Approval of alternatives to the requirements in §§63.11116 through 63.11118 and 63.11120.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

§63.11132 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA), or in subparts A and BBBB of this part. For purposes of this subpart, definitions in this section supersede definitions in other parts or subparts.

Blue Cube Operations LLC
Permit #: 0801-AOP-R10
AFIN: 58-00011

Dual-point vapor balance system means a type of vapor balance system in which the storage tank is equipped with an entry port for a gasoline fill pipe and a separate exit port for a vapor connection.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines.

Gasoline cargo tank means a delivery tank truck or railcar which is loading or unloading gasoline, or which has loaded or unloaded gasoline on the immediately previous load.

Gasoline dispensing facility (GDF) means any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment.

Monthly throughput means the total volume of gasoline that is loaded into, or dispensed from, all gasoline storage tanks at each GDF during a month. Monthly throughput is calculated by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the previous 364 days, and then dividing that sum by 12.

Motor vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway.

Nonroad engine means an internal combustion engine (including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under section 7411 of this title or section 7521 of this title.

Nonroad vehicle means a vehicle that is powered by a nonroad engine, and that is not a motor vehicle or a vehicle used solely for competition.

Submerged filling means, for the purposes of this subpart, the filling of a gasoline storage tank through a submerged fill pipe whose discharge is no more than the applicable distance specified in §63.11117(b) from the bottom of the tank. Bottom filling of gasoline storage tanks is included in this definition.

Vapor balance system means a combination of pipes and hoses that create a closed system between the vapor spaces of an unloading gasoline cargo tank and a receiving storage tank such that vapors displaced from the storage tank are transferred to the gasoline cargo tank being unloaded.

Vapor-tight means equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the Lower Explosive Limit when measured with a combustible gas detector, calibrated with propane, at a distance of 1 inch from the source.

Vapor-tight gasoline cargo tank means a gasoline cargo tank which has demonstrated within the 12 preceding months that it meets the annual certification test requirements in §63.11092(f) of this part.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

Table 1 to Subpart CCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More¹

| If you own or operate | Then you must |
|---|--|
| 1. A new, reconstructed, or existing GDF subject to §63.11118 | Install and operate a vapor balance system on your gasoline storage tanks that meets the design criteria in paragraphs (a) through (h). |
| | (a) All vapor connections and lines on the storage tank shall be equipped with closures that seal upon disconnect. |
| | (b) The vapor line from the gasoline storage tank to the gasoline cargo tank shall be vapor-tight, as defined in §63.11132. |
| | (c) The vapor balance system shall be designed such that the pressure in the tank truck does not exceed 18 inches water pressure or 5.9 inches water vacuum during product transfer. |
| | (d) The vapor recovery and product adaptors, and the method of connection with the delivery elbow, shall be designed so as to prevent the over-tightening or loosening of fittings during normal delivery operations. |
| | (e) If a gauge well separate from the fill tube is used, it shall be provided with a submerged drop tube that extends the same distance from the bottom of the storage tank as specified in §63.11117(b). |
| | (f) Liquid fill connections for all systems shall be equipped with vapor-tight caps. |
| | (g) Pressure/vacuum (PV) vent valves shall be installed on the storage tank vent pipes. The pressure specifications for PV vent valves shall be: a positive pressure setting of 2.5 to 6.0 inches of water and a negative pressure setting of 6.0 to 10.0 inches of water. The total leak rate of all PV vent valves at an affected facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0 inches of water and 0.63 cubic foot per hour at a vacuum of 4 inches of water. |
| | (h) The vapor balance system shall be capable of meeting the static pressure performance requirement of the following equation: |
| | $P_f = 2e^{-500.887/v}$ |
| | Where: |
| | P_f = Minimum allowable final pressure, inches of water. |

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| | v = Total ullage affected by the test, gallons. |
| | e = Dimensionless constant equal to approximately 2.718. |
| | 2 = The initial pressure, inches water. |
| 2. A new or reconstructed GDF, or any storage tank(s) constructed after November 9, 2006, at an existing affected facility subject to §63.11118 | Equip your gasoline storage tanks with a dual-point vapor balance system, as defined in §63.11132, and comply with the requirements of item 1 in this Table. |

¹The management practices specified in this Table are not applicable if you are complying with the requirements in §63.11118(b)(2), except that if you are complying with the requirements in §63.11118(b)(2)(i)(B), you must operate using management practices at least as stringent as those listed in this Table.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 35944, June 25, 2008; 76 FR 4184, Jan. 24, 2011]

Table 2 to Subpart CCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Cargo Tanks Unloading at Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More

| If you own or operate | Then you must |
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| A gasoline cargo tank | Not unload gasoline into a storage tank at a GDF subject to the control requirements in this subpart unless the following conditions are met: |
| | (i) All hoses in the vapor balance system are properly connected, |
| | (ii) The adapters or couplers that attach to the vapor line on the storage tank have closures that seal upon disconnect, |
| | (iii) All vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor-tight, |
| | (iv) All tank truck vapor return equipment is compatible in size and forms a vapor-tight connection with the vapor balance equipment on the GDF storage tank, and |
| | (v) All hatches on the tank truck are closed and securely fastened. |
| | (vi) The filling of storage tanks at GDF shall be limited to unloading from vapor-tight gasoline cargo tanks. Documentation that the cargo tank has met the specifications of EPA Method 27 shall be carried with the cargo tank, as specified in §63.11125(c). |

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011]

Table 3 to Subpart CCCCC of Part 63—Applicability of General Provisions

| Citation | Subject | Brief description | Applies to subpart CCCCC |
|-----------------|---|---|---|
| §63.1 | Applicability | Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications | Yes, specific requirements given in §63.11111. |
| §63.1(c)(2) | Title V Permit | Requirements for obtaining a title V permit from the applicable permitting authority | Yes, §63.11111(f) of subpart CCCCC exempts identified area sources from the obligation to obtain title V operating permits. |
| §63.2 | Definitions | Definitions for part 63 standards | Yes, additional definitions in §63.11132. |
| §63.3 | Units and Abbreviations | Units and abbreviations for part 63 standards | Yes. |
| §63.4 | Prohibited Activities and Circumvention | Prohibited activities; Circumvention, severability | Yes. |
| §63.5 | Construction/Reconstruction | Applicability; applications; approvals | Yes, except that these notifications are not required for facilities subject to §63.11116 |
| §63.6(a) | Compliance with Standards/Operation & Maintenance—Applicability | General Provisions apply unless compliance extension; General Provisions apply to area sources that become major | Yes. |
| §63.6(b)(1)-(4) | Compliance Dates for New and Reconstructed Sources | Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for CAA section 112(f) | Yes. |
| §63.6(b)(5) | Notification | Must notify if commenced construction or reconstruction after | Yes. |

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| | | proposal | |
| §63.6(b)(6) | [Reserved] | | |
| §63.6(b)(7) | Compliance Dates for New and Reconstructed Area Sources That Become Major | Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source | No. |
| §63.6(c)(1)-(2) | Compliance Dates for Existing Sources | Comply according to date in this subpart, which must be no later than 3 years after effective date; for CAA section 112(f) standards, comply within 90 days of effective date unless compliance extension | No, §63.11113 specifies the compliance dates. |
| §63.6(c)(3)-(4) | [Reserved] | | |
| §63.6(c)(5) | Compliance Dates for Existing Area Sources That Become Major | Area sources That become major must comply with major source standards by date indicated in this subpart or by equivalent time period (e.g., 3 years) | No. |
| §63.6(d) | [Reserved] | | |
| 63.6(e)(1)(i) | General duty to minimize emissions | Operate to minimize emissions at all times; information Administrator will use to determine if operation and maintenance requirements were met. | No. <i>See</i> §63.11115 for general duty requirement. |
| 63.6(e)(1)(ii) | Requirement to correct malfunctions ASAP | Owner or operator must correct malfunctions as soon as possible. | No. |
| §63.6(e)(2) | [Reserved] | | |
| §63.6(e)(3) | Startup, Shutdown, and Malfunction (SSM) Plan | Requirement for SSM plan; content of SSM plan; actions during SSM | No. |

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| §63.6(f)(1) | Compliance Except During SSM | You must comply with emission standards at all times except during SSM | No. |
| §63.6(f)(2)-(3) | Methods for Determining Compliance | Compliance based on performance test, operation and maintenance plans, records, inspection | Yes. |
| §63.6(g)(1)-(3) | Alternative Standard | Procedures for getting an alternative standard | Yes. |
| §63.6(h)(1) | Compliance with Opacity/Visible Emission (VE) Standards | You must comply with opacity/VE standards at all times except during SSM | No. |
| §63.6(h)(2)(i) | Determining Compliance with Opacity/VE Standards | If standard does not State test method, use EPA Method 9 for opacity in appendix A of part 60 of this chapter and EPA Method 22 for VE in appendix A of part 60 of this chapter | No. |
| §63.6(h)(2)(ii) | [Reserved] | | |
| §63.6(h)(2)(iii) | Using Previous Tests To Demonstrate Compliance With Opacity/VE Standards | Criteria for when previous opacity/VE testing can be used to show compliance with this subpart | No. |
| §63.6(h)(3) | [Reserved] | | |
| §63.6(h)(4) | Notification of Opacity/VE Observation Date | Must notify Administrator of anticipated date of observation | No. |
| §63.6(h)(5)(i), (iii)-(v) | Conducting Opacity/VE Observations | Dates and schedule for conducting opacity/VE observations | No. |
| §63.6(h)(5)(ii) | Opacity Test Duration and Averaging Times | Must have at least 3 hours of observation with 30 6-minute averages | No. |
| §63.6(h)(6) | Records of Conditions During Opacity/VE Observations | Must keep records available and allow Administrator to inspect | No. |

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| §63.6(h)(7)(i) | Report Continuous Opacity Monitoring System (COMS) Monitoring Data From Performance Test | Must submit COMS data with other performance test data | No. |
| §63.6(h)(7)(ii) | Using COMS Instead of EPA Method 9 | Can submit COMS data instead of EPA Method 9 results even if rule requires EPA Method 9 in appendix A of part 60 of this chapter, but must notify Administrator before performance test | No. |
| §63.6(h)(7)(iii) | Averaging Time for COMS During Performance Test | To determine compliance, must reduce COMS data to 6-minute averages | No. |
| §63.6(h)(7)(iv) | COMS Requirements | Owner/operator must demonstrate that COMS performance evaluations are conducted according to §63.8(e); COMS are properly maintained and operated according to §63.8(c) and data quality as §63.8(d) | No. |
| §63.6(h)(7)(v) | Determining Compliance with Opacity/VE Standards | COMS is probable but not conclusive evidence of compliance with opacity standard, even if EPA Method 9 observation shows otherwise. Requirements for COMS to be probable evidence-proper maintenance, meeting Performance Specification 1 in appendix B of part 60 of this chapter, and data have not been altered | No. |
| §63.6(h)(8) | Determining Compliance with Opacity/VE Standards | Administrator will use all COMS, EPA Method 9 (in appendix A of part 60 of this chapter), and EPA | No. |

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| | | Method 22 (in appendix A of part 60 of this chapter) results, as well as information about operation and maintenance to determine compliance | |
| §63.6(h)(9) | Adjusted Opacity Standard | Procedures for Administrator to adjust an opacity standard | No. |
| §63.6(i)(1)-(14) | Compliance Extension | Procedures and criteria for Administrator to grant compliance extension | Yes. |
| §63.6(j) | Presidential Compliance Exemption | President may exempt any source from requirement to comply with this subpart | Yes. |
| §63.7(a)(2) | Performance Test Dates | Dates for conducting initial performance testing; must conduct 180 days after compliance date | Yes. |
| §63.7(a)(3) | CAA Section 114 Authority | Administrator may require a performance test under CAA section 114 at any time | Yes. |
| §63.7(b)(1) | Notification of Performance Test | Must notify Administrator 60 days before the test | Yes. |
| §63.7(b)(2) | Notification of Re-scheduling | If have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay | Yes. |
| §63.7(c) | Quality Assurance (QA)/Test Plan | Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing | Yes. |

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| §63.7(d) | Testing Facilities | Requirements for testing facilities | Yes. |
| 63.7(e)(1) | Conditions for Conducting Performance Tests | Performance test must be conducted under representative conditions | No, §63.11120(c) specifies conditions for conducting performance tests. |
| §63.7(e)(2) | Conditions for Conducting Performance Tests | Must conduct according to this subpart and EPA test methods unless Administrator approves alternative | Yes. |
| §63.7(e)(3) | Test Run Duration | Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used | Yes. |
| §63.7(f) | Alternative Test Method | Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method | Yes. |
| §63.7(g) | Performance Test Data Analysis | Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years | Yes. |
| §63.7(h) | Waiver of Tests | Procedures for Administrator to waive performance test | Yes. |
| §63.8(a)(1) | Applicability of Monitoring Requirements | Subject to all monitoring requirements in standard | Yes. |
| §63.8(a)(2) | Performance Specifications | Performance Specifications in appendix B of 40 CFR part 60 apply | Yes. |
| §63.8(a)(3) | [Reserved] | | |

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| §63.8(a)(4) | Monitoring of Flares | Monitoring requirements for flares in §63.11 apply | Yes. |
| §63.8(b)(1) | Monitoring | Must conduct monitoring according to standard unless Administrator approves alternative | Yes. |
| §63.8(b)(2)-(3) | Multiple Effluents and Multiple Monitoring Systems | Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup | No. |
| §63.8(c)(1) | Monitoring System Operation and Maintenance | Maintain monitoring system in a manner consistent with good air pollution control practices | No. |
| §63.8(c)(1)(i)-(iii) | Operation and Maintenance of Continuous Monitoring Systems (CMS) | Must maintain and operate each CMS as specified in §63.6(e)(1); must keep parts for routine repairs readily available; must develop a written SSM plan for CMS, as specified in §63.6(e)(3) | No. |
| §63.8(c)(2)-(8) | CMS Requirements | Must install to get representative emission or parameter measurements; must verify operational status before or at performance test | No. |
| §63.8(d) | CMS Quality Control | Requirements for CMS | No. |

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| | | quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions | |
| §63.8(e) | CMS Performance Evaluation | Notification, performance evaluation test plan, reports | No. |
| §63.8(f)(1)-(5) | Alternative Monitoring Method | Procedures for Administrator to approve alternative monitoring | No. |
| §63.8(f)(6) | Alternative to Relative Accuracy Test | Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system (CEMS) | No. |
| §63.8(g) | Data Reduction | COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average | No. |
| §63.9(a) | Notification Requirements | Applicability and State delegation | Yes. |
| §63.9(b)(1)-(2), (4)-(5) | Initial Notifications | Submit notification within 120 days after effective date; notification of intent to construct/reconstruct, notification of commencement of construction/reconstruction, notification of startup; contents of each | Yes. |
| §63.9(c) | Request for Compliance Extension | Can request if cannot comply by date or if installed best available control technology or lowest achievable emission | Yes. |

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| §63.9(d) | Notification of Special Compliance Requirements for New Sources | For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date | Yes. |
| §63.9(e) | Notification of Performance Test | Notify Administrator 60 days prior | Yes. |
| §63.9(f) | Notification of VE/Opacity Test | Notify Administrator 30 days prior | No. |
| §63.9(g) | Additional Notifications when Using CMS | Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative | Yes, however, there are no opacity standards. |
| §63.9(h)(1)-(6) | Notification of Compliance Status | Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after; when to submit to Federal vs. State authority | Yes, however, there are no opacity standards. |
| §63.9(i) | Adjustment of Submittal Deadlines | Procedures for Administrator to approve change when notifications must be submitted | Yes. |
| §63.9(j) | Change in Previous Information | Must submit within 15 days after the change | Yes. |
| §63.10(a) | Recordkeeping/Reporting | Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source | Yes. |
| §63.10(b)(1) | Recordkeeping/Reporting | General requirements; keep all records readily available; keep for 5 years | Yes. |

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| §63.10(b)(2)(i) | Records related to SSM | Recordkeeping of occurrence and duration of startups and shutdowns | No. |
| §63.10(b)(2)(ii) | Records related to SSM | Recordkeeping of malfunctions | No. <i>See</i> §63.11125(d) for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction. |
| §63.10(b)(2)(iii) | Maintenance records | Recordkeeping of maintenance on air pollution control and monitoring equipment | Yes. |
| §63.10(b)(2)(iv) | Records Related to SSM | Actions taken to minimize emissions during SSM | No. |
| §63.10(b)(2)(v) | Records Related to SSM | Actions taken to minimize emissions during SSM | No. |
| §63.10(b)(2)(vi)-(xi) | CMS Records | Malfunctions, inoperative, out-of-control periods | No. |
| §63.10(b)(2)(xii) | Records | Records when under waiver | Yes. |
| §63.10(b)(2)(xiii) | Records | Records when using alternative to relative accuracy test | Yes. |
| §63.10(b)(2)(xiv) | Records | All documentation supporting Initial Notification and Notification of Compliance Status | Yes. |
| §63.10(b)(3) | Records | Applicability determinations | Yes. |
| §63.10(c) | Records | Additional records for CMS | No. |
| §63.10(d)(1) | General Reporting Requirements | Requirement to report | Yes. |
| §63.10(d)(2) | Report of Performance Test Results | When to submit to Federal or State authority | Yes. |
| §63.10(d)(3) | Reporting Opacity or VE Observations | What to report and when | No. |

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| §63.10(d)(4) | Progress Reports | Must submit progress reports on schedule if under compliance extension | Yes. |
| §63.10(d)(5) | SSM Reports | Contents and submission | No. <i>See</i> §63.11126(b) for malfunction reporting requirements. |
| §63.10(e)(1)-(2) | Additional CMS Reports | Must report results for each CEMS on a unit; written copy of CMS performance evaluation; two-three copies of COMS performance evaluation | No. |
| §63.10(e)(3)(i)-(iii) | Reports | Schedule for reporting excess emissions | No. |
| §63.10(e)(3)(iv)-(v) | Excess Emissions Reports | Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)-(8) and 63.10(c)(5)-(13) | No. |
| §63.10(e)(3)(iv)-(v) | Excess Emissions Reports | Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as deviations); provision to | No, §63.11130(K) specifies excess emission events for this subpart. |

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|-------------------------|--|--|------|
| | | request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)-(8) and 63.10(c)(5)-(13) | |
| §63.10(e)(3)(vi)-(viii) | Excess Emissions Report and Summary Report | Requirements for reporting excess emissions for CMS; requires all of the information in §§63.10(c)(5)-(13) and 63.8(c)(7)-(8) | No. |
| §63.10(e)(4) | Reporting COMS Data | Must submit COMS data with performance test data | No. |
| §63.10(f) | Waiver for Recordkeeping/Reporting | Procedures for Administrator to waive | Yes. |
| §63.11(b) | Flares | Requirements for flares | No. |
| §63.12 | Delegation | State authority to enforce standards | Yes. |
| §63.13 | Addresses | Addresses where reports, notifications, and requests are sent | Yes. |
| §63.14 | Incorporations by Reference | Test methods incorporated by reference | Yes. |
| §63.15 | Availability of Information | Public and confidential information | Yes. |

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011]

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Appendix B
40 CFR Part 61, Subpart M - *National Emission Standards for Asbestos*

e-CFR data is current as of October 30, 2015

Title 40: Protection of Environment

[PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS](#)

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.

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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 E, subpart E, 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 E, subpart E, 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 E, subpart E, 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

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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 E, subpart E, 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.

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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 E, subpart E, 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; 60 FR 31920, June 19, 1995]

§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

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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 semiannually a copy of visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

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| Date of inspection (mo/day/yr) | Time of inspection (a.m./p.m.) | Air cleaning device or fugitive source designation or number | Visible emissions observed (yes/no), corrective action taken | Daily operating hours | Inspector's initials |
|--------------------------------|--------------------------------|--|--|-----------------------|----------------------|
| | | | | | |
| | | | | | |
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Figure 1. Record of Visible Emission Monitoring

| | | | | | |
|-----|---|---------|-------------|--------|-------|
| 1. | Air cleaning device designation or number | _____ | _____ | _____ | _____ |
| 2. | Date of inspection | _____ | _____ | _____ | _____ |
| 3. | Time of inspection | _____ | _____ | _____ | _____ |
| 4. | Is air cleaning device operating properly (yes/no) | _____ | _____ | _____ | _____ |
| 5. | Tears, holes, or abrasions in fabric filter (yes/no) | _____ | _____ | _____ | _____ |
| 6. | Dust on clean side of fabric filters (yes/no) | _____ | _____ | _____ | _____ |
| 7. | Other signs of malfunctions or potential malfunctions (yes/no) | _____ | _____ | _____ | _____ |
| 8. | Describe other malfunctions or signs of potential malfunctions. _____ | | | | |
| | _____ | | | | |
| 9. | Describe corrective action(s) taken. _____ | | | | |
| | _____ | | | | |
| | _____ | | | | |
| 10. | Date and time corrective action taken | _____ | _____ | _____ | _____ |
| 11. | Inspected by | | | | |
| | _____ | _____ | _____ | _____ | _____ |
| | (Print/type Name) | (Title) | (Signature) | (Date) | |
| | _____ | _____ | _____ | _____ | _____ |
| | (Print/type Name) | (Title) | (Signature) | (Date) | |

Figure 2. Air Cleaning Device Inspection Checklist

[55 FR 48416, Nov. 20, 1990, as amended at 64 FR 7467, Feb. 12, 1999]

§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

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(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 semiannually a copy of the visible emission monitoring records to the Administrator if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

[49 FR 13661, Apr. 5, 1984, as amended at 55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991; 64 FR 7467, Feb. 12, 1999]

§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:

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(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.

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(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.

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(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.

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(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.

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(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.

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NOTIFICATION OF DEMOLITION AND RENOVATION

| | | | | | |
|---|--------------------|--|----------------|------------------------------------|------|
| Operator Project # | Postmark | Date Received | Notification # | | |
| I. TYPE OF NOTIFICATION (O=Original R=Revised C=Cancelled) | | | | | |
| II. FACILITY INFORMATION (Identify owner, removal contractor, and other operator) | | | | | |
| OWNER NAME: | | | | | |
| Address: | | | | | |
| City: | State: | Zip: | | | |
| Contact: | | Tel: | | | |
| REMOVAL CONTRACTOR: | | | | | |
| Address: | | | | | |
| City: | State: | Zip: | | | |
| Contact: | | Tel: | | | |
| OTHER OPERATOR: | | | | | |
| Address: | | | | | |
| City: | State: | Zip: | | | |
| Contact: | | Tel: | | | |
| III. TYPE OF OPERATION (D=Demo O=Ordered Demo R=Renovation E=Enter Renovation) | | | | | |
| IV. IS ASBESTOS PRESENT? (Yes/No) | | | | | |
| V. FACILITY DESCRIPTION (Include building name, number and floor or room number) | | | | | |
| Bldg Name: | | | | | |
| Address: | | | | | |
| City: | State: | County: | | | |
| Site location: | | | | | |
| Building Size: | # of Floors: | Age in Years: | | | |
| Present Use: | | Prior Use: | | | |
| VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL: | | | | | |
| VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING: | | | | | |
| 1. Regulated ACM to be removed | SACM To Be Removed | Nonfriable Asbestos Material Not To Be Removed | | Indicate Unit of Measurement Below | |
| 2. Category I ACM Not Removed | | Cat I | Cat II | UNIT | |
| 3. Category II ACM Not Removed | | | | sq ft | sq m |
| Figures | | | | sq ft | sq m |
| Surface Area | | | | sq ft | sq m |
| % SACM Off Facility Component | | | | cu ft | cu m |
| VIII. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Starts | | | | Completes | |
| IX. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Starts | | | | Completes | |

Continued on page two

Figure 3. Notification of Demolition and Renovation

[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:

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(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 E, subpart E, 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 E, subpart E, 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; 60 FR 31920, June 19, 1995]

§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 semiannually a copy of the visible emission monitoring records to the Administrator if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48424, Nov. 20, 1991; 64 FR 7467, Feb. 12, 1999]

§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 alternative method 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 x 36 cm (20 in x 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 ($\frac{3}{4}$ 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.

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(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.

| | | | | |
|---------------------------|--|--|------------------------|---|
| Generator | 1. Work site name and mailing address | | Owner's name | Owner's telephone no. |
| | 2. Operator's name and address | | | Operator's telephone no. |
| | 3. Waste disposal site (WDS) name, mailing address, and physical site location | | | WDS phone no. |
| | 4. Name, and address of responsible agency | | | |
| | 5. Description of materials | | 6. Containers No. Type | 7. Total quantity m ³ (yd ³) |
| | 8. Special handling instructions and additional information | | | |
| | 9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above 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. | | | |
| | Printed/typed name & title | | Signature | Month Day Year |
| | 10. Transporter 1 (Acknowledgment of receipt of materials) | | | |
| Transporter | Printed/typed name & title | | Signature | Month Day Year |
| | Address and telephone no. | | | |
| | 11. Transporter 2 (Acknowledgment of receipt of materials) | | | |
| | Printed/typed name & title | | Signature | Month Day Year |
| Address and telephone no. | | | | |
| Disposal Site | 12. Discrepancy indication space | | | |
| | 13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12. | | | |
| | Printed/typed name & title | | Signature | Month Day Year |

(Continued)

Figure 4. Waste Shipment Record

| INSTRUCTIONS | |
|--|---|
| <u>Waste Generator Section (Items 1-9)</u> | |
| 1. | Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number. |
| 2. | If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator. |
| 3. | Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property. |
| 4. | Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program. |
| 5. | Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is <ul style="list-style-type: none">- Friable asbestos material- Nonfriable asbestos material |
| 6. | Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below): <ul style="list-style-type: none">DM - Metal drums, barrelsDP - Plastic drums, barrelsBA - 6 mil plastic bags or wrapping |
| 7. | Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards). |
| 8. | Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here. |
| 9. | The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter. |
| NOTE: The waste generator must retain a copy of this form. | |

(continued)

Figure 4. Waste Shipment Record

| |
|---|
| <p><u>Transporter Section (Items 10 & 11)</u></p> <p>10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.</p> <p>NOTE: The transporter must retain a copy of this form.</p> <p><u>Disposal Site Section (Items 12 & 13)</u></p> <p>12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.</p> <p>13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.</p> <p>NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.</p> |
|---|

Figure 4. Waste Shipment Record

§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,

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Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(4) or 1926.1101(k)(8). 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 §§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.

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(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, as amended at 68 FR 54793, Sept. 18, 2003]

§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 x 36 cm (20" x 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 m³/min/m² (30 ft³/min/ft²) for woven fabrics or 11³/min/m²(35 ft³/min/ft²) for felted fabrics, except

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that 12 m³/min/m² (40 ft³min/ft²) for woven and 14 m³/min/m² (45 ft³min/ft²) 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 m³/min/m² and; if the fabric is synthetic, whether the fill yarn is spun or not spun; and

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(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/m^2 (oz/yd^2), the minimum thickness in millimeters (inches), and the airflow permeability in $\text{m}^3/\text{min}/\text{m}^2$ ($\text{ft}^3/\text{min}/\text{ft}^2$).

(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 m^3/day (yd^3/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.

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(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 x 36 cm (20" x 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,

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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.

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(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 part 763, subpart E | Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States. Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures. |
| | 40 CFR part 427 | Effluent standards for asbestos manufacturing source categories. |
| | 40 CFR part 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, permissible exposure level. |
| | 29 CFR 1926.1101 | Worker protection measures for all construction work involving asbestos, including demolition and renovation-work practices, worker training, bagging of waste, permissible exposure level. |
| MSHA | 30 CFR part 56, subpart D | Specifies exposure limits, engineering controls, and respiratory protection measures for workers in surface mines. |
| | 30 CFR part 57, subpart D | Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines. |
| DOT | 49 CFR parts 171 and 172 | Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers. |

[55 FR 48432, Nov. 20, 1990, as amended at 60 FR 31920, June 19, 1995; 68 FR 54793, Sept. 18, 2003; 69 FR 43324, July 20, 2004]

§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 of Part 61—Interpretive Rule Governing Roof Removal Operations

1. 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 E, subpart E, 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 1 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.

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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.

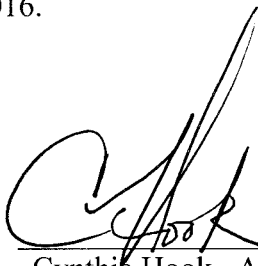
5.2. Asbestos training courses developed specifically to address compliance with the NESHAP in roofing work, as well as courses developed for other purposes can satisfy this requirement of the NESHAP, as long as the course covers the areas specified in the regulation. EPA believes that Asbestos Hazard 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.

[59 FR 31158, June 17, 1994, as amended at 60 FR 31920, June 19, 1995]

CERTIFICATE OF SERVICE

I, Cynthia Hook , hereby certify that a copy of this permit has been mailed by first class mail to Blue Cube Operations LLC, 3230 Dow Drive, Russellville, AR, 72802, on this 14th day of March, 2016.

A handwritten signature in black ink, appearing to read 'C. Hook', written over a horizontal line.

Cynthia Hook , ASIII, Air Division