



# ARKANSAS

## ENERGY & ENVIRONMENT

February 14, 2022

Via email to: tommy.smith2@gapac.com  
sarah.ross@gapac.com & First Class Mail

Tommy Smith  
Vice-President-Manufacturing  
Georgia-Pacific Crossett LLC  
P. O. Box 3333  
Crossett, AR 71635-3333

Re: Notice of Final Permitting Decision; Permit No. 0597-AOP-R23

Dear Mr. Smith,

After considering the application, any public comments, and other applicable materials as required by APC&EC Reg.8.211 and Ark. Code Ann. § 8-4-101 *et seq.*, this notice of final permitting decision is provided for:

Georgia-Pacific Crossett LLC  
100 Mill Supply Road  
Crossett, AR 71635

Permit Number: 0597-AOP-R23

Permitting Decision: approval with permit conditions as set forth in final Permit No. 0597-AOP-R23

Accessing the Permitting Decision and Response to Comments, if any:  
<https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/Air/0597-AOP-R23.pdf>.

Accessing the Statement of Basis:  
<https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/Air/0597-AOP-R23-SOB.pdf>.

The permitting decision is effective on the date stated in the attached Certificate of Service unless a Commission review has been properly requested under Arkansas Pollution Control & Ecology Commission's Administrative Procedures, Regulation No. 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. Such a request shall be in the form and manner required by Reg.8.603, including filing a written Request for Hearing with the Commission secretary at 3800 Richards Rd, North Little Rock, Arkansas 72117. If you have any questions about filing the request, please call the Commission at 501-682-7890.

This permit is your authority to construct, operate, and maintain the equipment and control apparatus as set forth in your application initially received on 4/2/2021.

Sincerely,

William K. Montgomery  
Associate Director, Office of Air Quality, Division of Environmental Quality  
5301 Northshore Drive, North Little Rock, AR 72118-5317

Enclosure: Certificate of Service

**CERTIFICATE OF SERVICE**

I, Cynthia Hook, hereby certify that the final permit decision notice has been mailed by first class mail to Georgia-Pacific Crossett LLC, P. O. Box 3333, Crossett, AR, 71635-3333, on this  
\_\_\_\_ 14th \_\_\_\_ day of \_\_\_\_ February \_\_\_\_\_, 2022.

A handwritten signature in black ink, appearing to read "Cynthia Hook", is written over a horizontal line.

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Cynthia Hook, AA, Office of Air Quality

## **RESPONSE TO COMMENTS**

### **GEORGIA-PACIFIC CROSSETT LLC PERMIT #0597-AOP-R23 AFIN: 02-00013**

On December 5, 2021, the Director of the Arkansas Department of Energy and Environment, Division of Environmental Quality (“Division”) gave notice of a draft permitting decision for the above referenced facility. On January 4 and January 6, 2022, written comments on the draft permitting decision were submitted on behalf of the facility via email. The Division’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.*

#### **Comment #1:**

It is requested that the facility name be changed consistent with a request submitted on December 1, 2021. No change in ownership has occurred.

#### **Response to Comment #1:**

The facility name, in the permit and Statement of Basis, was changed to Georgia-Pacific Crossett LLC.

*The following comments were made after the end of the comment period. The Division is not obligated to respond to these comments; however, in the interest of public information we are providing the following responses. By responding to these comments we are not establishing any rights of the parties involved outside of those established in Regulation 8.*

#### **Comment #2:**

Specific Condition #64 of the draft permit specifies that visible emissions at the Tissue Repulpers A, B, and C (SN-93) may not exceed 20% opacity as measured by EPA Reference Method 9. Opacity requirements for SN-93 should be revised because these units are located indoors and emissions are not routed to a stack.

#### **Response to Comment #2:**

Since SN-93 is located indoors and emissions are not routed to a stack, Specific Condition #64 and #65 have been revised as shown below.

64. SN-93 shall have no visible emissions. Compliance shall be demonstrated by Compliance with Specific Condition #65. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
65. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-93 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the

observer be a certified visible emission reader. If visible emissions are detected, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

- a. The date and time of the observation
- b. If visible emissions were detected
- c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
- d. The name of the person conducting the observation.



**DIVISION OF ENVIRONMENTAL QUALITY**

**OPERATING AIR PERMIT**

**PERMIT NUMBER:** 0597-AOP-R23

**IS ISSUED TO:**

Georgia-Pacific Crossett LLC  
100 Mill Supply Road  
Crossett, AR 71635  
Ashley County  
**AFIN:** 02-00013

PURSUANT TO THE REGULATIONS OF THE ARKANSAS OPERATING AIR PERMIT PROGRAM, REGULATION 26: 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:

September 24, 2019    AND    September 23, 2024

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

**Signed:**

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William K.. Montgomery  
Associate Director, Office of Air Quality  
Division of Environmental Quality

February 14, 2022

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Date

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Georgia-Pacific Crossett LLC

Permit #: 0597-AOP-R23

AFIN: 02-00013

Appendix E: 40 C.F.R. Part 63, Subpart DDDDD—*National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*

Appendix F: 40 C.F.R. Part 63, Subpart KK—*National Emission Standards for the Printing and Publishing Industry*



List of Acronyms and Abbreviations

|                   |  |
|-------------------|--|
| Ark. Code Ann.    | Arkansas Code Annotated                                    |
| AFIN              | Arkansas DEQ Facility Identification Number                |
| C.F.R.            | Code of Federal Regulations                                |
| CO                | Carbon Monoxide  |
| COMS              | Continuous Opacity Monitoring System                       |
| HAP               | Hazardous Air Pollutant                                    |
| Hp                | Horsepower   |
| lb/hr             | Pound Per Hour   |
| NESHAP            | National Emission Standards (for) Hazardous Air Pollutants |
| MVAC              | Motor Vehicle Air Conditioner                              |
| No.               | Number   |
| NO <sub>x</sub>   | Nitrogen Oxide   |
| NSPS              | New Source Performance Standards                           |
| PM                | Particulate Matter   |
| PM <sub>10</sub>  | Particulate Matter Equal To Or Smaller Than Ten Microns    |
| PM <sub>2.5</sub> | Particulate Matter Equal To Or Smaller Than 2.5 Microns    |
| SNAP              | Significant New Alternatives Program (SNAP)                |
| SO <sub>2</sub>   | Sulfur Dioxide   |
| SSM               | Startup, Shutdown, and Malfunction Plan                    |
| Tpy               | Tons Per Year  |
| UTM               | Universal Transverse Mercator                              |
| VOC               | Volatile Organic Compound                                  |

Georgia-Pacific Crossett LLC  
Permit #: 0597-AOP-R23  
AFIN: 02-00013

## **SECTION I: FACILITY INFORMATION**

PERMITTEE: Georgia-Pacific Crossett LLC

AFIN: 02-00013

PERMIT NUMBER: 0597-AOP-R23

FACILITY ADDRESS: 100 Mill Supply Road  
Crossett, AR 71635

MAILING ADDRESS: P. O. Box 3333  
Crossett, AR 71635-3333

COUNTY: Ashley County

CONTACT NAME: Tommy Smith

CONTACT POSITION: Vice-President-Manufacturing

TELEPHONE NUMBER: (870) 415-6210

REVIEWING ENGINEER: John Mazurkiewicz

UTM North South (Y): Zone 15: 3667408.69 m

UTM East West (X): Zone 15: 596029.3 m

## SECTION II: INTRODUCTION

### Summary of Permit Activity

The Georgia-Pacific Consumer Operations LLC—Crossett Paper Operations operates a facility (the facility or the mill) located at 100 Mill Supply Road, Crossett, Arkansas 71635. The facility operates equipment and processes that support the production of consumer bath tissue on four tissue machines and associated tissue converting lines. An application for modification to the existing Title V permit has been submitted. The following changes are included in this revision.

- Particulate emission limits for the Tissue Machine No. 5, 6, 7, and 8 Burners (SN-47, SN-48, SN-49, and SN-79) have increased based on recent stack testing performed at several other facilities, and the source description has been revised to Tissue Machine No. 5, 6, 7, and 8 Burners, Yankee Hood, and Process Emissions. Revised limits include process emissions generated at the Yankee dryers. In addition, while the previous limits included only filterable emissions (PM-FIL), revised limits, except for those established pursuant to BACT, include condensable emissions (PM-CON). Only limits for PM<sub>10</sub> and PM<sub>2.5</sub> include PM-CON; PM by definition only includes PM-FIL.
- Particulate emission limits for the Tissue Machines No. 5, 6, 7, and 8 (SN-68, SN-69, SN-70, and SN-80) have increased based on recent stack testing performed at several other facilities. While the previous limits included only PM-FIL, revised limits, except for those established pursuant to BACT, include PM-CON. Only limits for PM<sub>10</sub> and PM<sub>2.5</sub> include PM-CON; PM by definition only includes PM-FIL.
- Specific Conditions #6, 18, 30, and 42, which contain BACT limits for the tissue machines and associated sources (SN-47, SN-48, SN-49, SN-68, SN-69, SN-70, SN-79, SN-80 and SN-81), were revised to clarify particulate limits only apply to PM-FIL. In addition, limits for other sources with known condensable emission factors (SN-18, SN-19, SN-49, and SN-68) were revised to clarify particulate limits only apply to PM-FIL.
- Particulate emission limits for Tissue Machine No. 5 (SN-68), in Specific Condition #6, have been removed. Limits for the tissue machine are included in Specific Conditions #5 and #7; however, these limits were not established as part of a PSD permit, therefore inclusion in Specific Condition #6 is not appropriate.
- The VOC emission limits for Tissue Machine No. 7 (SN-70), in Specific Condition #29, have been removed. Limits for the tissue machine are included in Specific Condition #30; therefore, it is not necessary to include the limits in this condition.
- Particulate emission limits and opacity limits were added for the Tissue Repulpers A, B, and C (SN-93). During stack testing at a similar source, it was discovered the repulpers have the potential to emit particulates. Specific Condition #65 was added to limit opacity at the source. In addition, two repulpers (Repulper C2 and D) were included as insignificant activities (Group A-13). Repulper C2 and D do not use additives containing VOC or HAPs.

In addition to the changes above, the permit application requested to remove references in Specific Conditions #5, 17, and 29 to recordkeeping requirements (Specific Conditions #14, 27, and 38, respectively); however, these conditions require production records that are necessary to

demonstrate compliance with emission limits for particulates. The revisions are not appropriate at this time.

As a result of this modification, permitted emissions increase 62.6 tpy PM, 23.9 tpy PM<sub>10</sub>, and 11.6 tpy PM<sub>2.5</sub>.

## **Process Description**

### Woodyard

The woodyard no longer receives logs or wood chips used in the papermaking process. Only the 9A Boiler Bark Transfer System (SN-102) remains in this area.

### Bleach Plant

The Bleach Plant is shutdown with some sources remaining (tanks/chests) until the sources are either repurposed or shutdown.

### Tissue Machine and Converting Operations

Tissue and towel consumer products are manufactured on four tissue machines (Tissue Machine Nos. 5-8). Each machine has its own stock preparation, head box, wire section, press section, dryer sections, calendar stacks, and reels. Softwood and hardwood fiber, which is used in the papermaking process, is received by truck and rail in the form of dried, baled pulp. The dry pulp is conveyed into one of three repulpers, where fresh water or tissue machine white water is used to rehydrate the pulp and dilute the pulp stock to allow it to be pumped into existing stock storage chests. From the stock storage chests, pulp is pumped to the tissue machines where it is converted into tissue. In the tissue and towel converting operations, large parent rolls of tissue/towel manufactured on the tissue machines, or imported from other facilities, are converted into finished consumer products by processes that include rewinding tissue/towel onto smaller sized rolls, core gluing, laminating, printing, slitting into the desired widths, packaging, and shipping.

### Steam Generation

The mill's power boilers generate steam and provide electrical power through the use of steam generating turbines. The boilers include one multi-fuel fired combination boiler and two natural gas-fired boilers.

### Wastewater Treatment System

Wastewater from the mill is processed through a number of treatment operations, including clarifiers, settling basins, an aeration stabilization basin, an equalization basin, and a polishing pond identified as Mossy Lake. The treated wastewater is then directed to the Ouachita River via Coffee Creek.

### Miscellaneous

The mill's operations also includes a number of miscellaneous activities, including paved and unpaved haul roads, fuel storage tanks, and emergency use engines to generate electrical power during temporary electrical power outages. The mill also operates two onsite landfills, identified

Georgia-Pacific Crossett LLC  
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as the East Landfill and the North Landfill. The East Landfill accepts only wood residuals and concrete debris. The North Landfill is an industrial landfill which accepts general trash from the mill.

### Regulations

The following table contains the regulations applicable to this permit.

| Regulations   |                            |
|---|----------------------------|
| Arkansas Air Pollution Control Code, Regulation 18, effective March 14, 2016                              |                            |
| Rules of the Arkansas Plan of Implementation for Air Pollution Control, Rule 19, effective August 6, 2020 |                            |
| Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective March 14, 2016         |                            |
| 40 C.F.R. § 52.21— <i>Prevention of Significant Deterioration (PSD)</i>                                   |                            |
| SN-18, SN-19, SN-22   | 40 C.F.R. 63 Subpart DDDDD |
| SN-45   | 40 C.F.R. 63 Subpart KK    |
| SN-111, SN-112, SN-113, SN-141, SN-142 and SN-143   | 40 C.F.R. 63 Subpart JJJJ  |
| SN-115, SN-116, SN-117, SN-118, SN-119, and SN-120  | 40 C.F.R. 63 Subpart ZZZZ  |
| SN-118, and SN-119  | 40 C.F.R. 60 Subpart IIII  |
| 40 C.F.R. § 64— <i>Compliance Assurance Monitoring (CAM)</i>  |                            |
| 40 C.F.R. § 82— <i>Protection of Stratospheric Ozone</i>  |                            |

### 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 #                  | Description | Pollutant           | Emission Rates |       |
|                           |             |                     | lb/hr          | tpy   |
| Total Allowable Emissions |             | PM                  | 124.0          | 498.0 |
|                           |             | PM <sub>10</sub>    | 105.0          | 433.1 |
|                           |             | PM <sub>2.5</sub> * | 97.6           | 407.5 |
|                           |             | SO <sub>2</sub>     | 149.8          | 266   |

| EMISSION SUMMARY |             |                                     |                |        |
|------------------|-------------|-------------------------------------|----------------|--------|
| Source #         | Description | Pollutant                           | Emission Rates |        |
|                  |             |                                     | lb/hr          | tpy    |
|                  |             | VOC                                 | 193.0          | 743.6  |
|                  |             | CO                                  | 452            | 1938.4 |
|                  |             | NO <sub>x</sub>                     | 444.7          | 1758.2 |
|                  |             | Pb**                                | 0.1            | 0.2    |
|                  |             | TRS                                 | 45.6           | 189.7  |
| HAPs             |             | 1,1,1-Trichloroethane**             | 0.03           | 0.10   |
|                  |             | 1,1,2-Trichloroethane               | 0.01           | 0.01   |
|                  |             | 1,2,4-Trichlorobenzene              | 0.11           | 0.39   |
|                  |             | 1,2-Dichloroethane                  | 0.02           | 0.27   |
|                  |             | 1,2-Dichloropropane                 | 0.01           | 0.05   |
|                  |             | 1,4-Dichlorobenzene                 | 0.16           | 0.70   |
|                  |             | 2,3,7,8-Tetrachlorodibenzo-p-dioxin | 0.01           | 0.01   |
|                  |             | 2,4,6-Trichlorophenol               | 0.01           | 0.01   |
|                  |             | 2,4-Dinitrophenol                   | 0.01           | 0.01   |
|                  |             | 2,4-Dinitrotoluene                  | 0.01           | 0.01   |
|                  |             | 4-Nitrophenol                       | 0.01           | 0.01   |
|                  |             | 4,6-Dinitro-o-cresol                | 0.01           | 0.02   |
|                  |             | Acetaldehyde                        | 0.64           | 2.52   |
|                  |             | Acetophenone                        | 0.01           | 0.01   |
|                  |             | Acrolein                            | 0.09           | 0.33   |
|                  |             | Antimony                            | 0.01           | 0.01   |
|                  |             | Arsenic                             | 0.08           | 0.10   |
|                  |             | Benzene                             | 0.34           | 0.88   |
|                  |             | Beryllium                           | 0.01           | 0.01   |
|                  |             | Bis(2-Ethylhexyl)phthalate          | 0.01           | 0.01   |
|                  |             | Bromomethane                        | 0.01           | 0.01   |
|                  |             | Cadmium                             | 0.08           | 0.08   |
|                  |             | Carbon Disulfide                    | 0.3            | 0.96   |
|                  |             | Carbon Tetrachloride                | 0.01           | 0.03   |
|                  |             | Chlorobenzene                       | 0.06           | 0.10   |
|                  |             | Chloroform                          | 1.31           | 5.13   |
|                  |             | Chloromethane                       | 0.02           | 0.07   |
|                  |             | Chromium (III)                      | 0.08           | 0.10   |
|                  |             | Chromium (VI)                       | 0.01           | 0.01   |
|                  |             | Cobalt                              | 0.08           | 0.08   |
|                  |             | Cumene                              | 0.02           | 0.05   |
|                  |             | Dibutyl phthalate                   | 0.02           | 0.09   |
|                  |             | Ethyl Benzene                       | 0.07           | 0.17   |
|                  |             | Formaldehyde                        | 0.42           | 1.43   |

| EMISSION SUMMARY    |   |  |                |        |
|---------------------|---|--|----------------|--------|
| Source #            | Description                               | Pollutant                                    | Emission Rates |        |
|                     |   |  | lb/hr          | tpy    |
|                     |   | Hexachlorobenzene                            | 0.01           | 0.01   |
|                     |   | Hexane                                       | 3.08           | 13.34  |
|                     |   | Hydrochloric Acid**                          | 0.07           | 0.28   |
|                     |   | Hydrogen Cyanide                             | 0.02           | 0.06   |
|                     |   | Manganese                                    | 0.15           | 0.39   |
|                     |   | Mercury                                      | 0.08           | 0.08   |
|                     |   | Methanol                                     | 46.22          | 133.57 |
|                     |   | Methyl Chloride                              | 0.02           | 0.05   |
|                     |   | Methyl Isobutyl Ketone                       | 0.31           | 1.23   |
|                     |   | Methylene Chloride**                         | 0.13           | 0.50   |
|                     |   | Naphthalene                                  | 0.22           | 0.37   |
|                     |   | n-Hexane                                     | 0.05           | 0.08   |
|                     |   | Nickel                                       | 0.08           | 0.10   |
|                     |   | Pentachlorophenol                            | 0.01           | 0.01   |
|                     |   | Phenol                                       | 0.42           | 1.75   |
|                     |   | Phosphorus                                   | 0.06           | 0.25   |
|                     |   | POM  | 0.28           | 0.61   |
|                     |   | Propionaldehyde                              | 0.38           | 1.70   |
|                     |   | Selenium                                     | 0.01           | 0.01   |
|                     |   | Styrene                                      | 0.06           | 0.13   |
|                     |   | Tetrachloroethylene**                        | 0.07           | 0.20   |
|                     |   | Tissue Mill Converting HAPs (Total HAPs)**** | 2.12           | 4.22   |
|                     |   | Toluene                                      | 0.34           | 0.85   |
|                     |   | Trichloroethylene                            | 0.07           | 0.10   |
|                     |   | Vinyl Chloride                               | 0.02           | 0.05   |
|                     |   | Xylenes (mixed isomers)                      | 0.16           | 0.20   |
| Air Contaminants*** |   | Acetone***                                   | 0.71           | 3.00   |
|                     |   | Ammonia***                                   | 0.06           | 0.25   |
|                     |   | Hydrogen Fluoride***                         | 0.01           | 0.03   |
|                     |   | Hydrogen Sulfide***                          | 32.19          | 141.01 |
|                     |   | Trichlorofluoromethane***                    | 0.01           | 0.05   |
| SN-102              | 9A Boiler Bark Transfer System            | PM   | 1.7            | 1.0    |
|                     |   | PM <sub>10</sub>                             | 0.8            | 0.5    |
|                     |   | PM <sub>2.5</sub>                            | 0.2            | 0.1    |
| SN-75 (D-I)         | Bleached Pulp High Density Storage Chests | VOC  | 29.1           | 127.2  |
|                     |   | TRS  | 0.4            | 1.5    |
|                     |   | Acetone***                                   | 0.01           | 0.03   |
|                     |   | Hydrogen Sulfide***                          | 0.01           | 0.01   |
|                     |   | 1,1,2-Trichloroethane                        | 0.01           | 0.01   |

| EMISSION SUMMARY |  |                           |                |      |
|------------------|--|---------------------------|----------------|------|
| Source #         | Description  | Pollutant                 | Emission Rates |      |
|                  |  |                           | lb/hr          | tpy  |
|                  |  | Acetaldehyde              | 0.01           | 0.02 |
|                  |  | Benzene                   | 0.01           | 0.01 |
|                  |  | Chlorobenzene             | 0.01           | 0.01 |
|                  |  | Chloroform                | 0.04           | 0.16 |
|                  |  | Methanol                  | 0.18           | 0.76 |
|                  |  | Methyl Isobutyl Ketone    | 0.01           | 0.01 |
|                  |  | n-Hexane                  | 0.01           | 0.01 |
|                  |  | Phenol                    | 0.05           | 0.21 |
|                  |  | Propionaldehyde           | 0.01           | 0.01 |
|                  |  | Styrene                   | 0.01           | 0.01 |
|                  |  | Tetrachloroethylene**     | 0.01           | 0.01 |
|                  |  | Toluene                   | 0.01           | 0.01 |
|                  |  | Trichloroethylene         | 0.01           | 0.01 |
|                  |  | Xylenes (mixed isomers)   | 0.01           | 0.01 |
| SN-47            | Tissue Machine No. 5 Burners, Yankee Hood, and Process Emissions | PM                        | 0.4            | 1.5  |
|                  |  | PM <sub>10</sub> (Total)  | 0.4            | 1.5  |
|                  |  | PM <sub>2.5</sub> (Total) | 0.4            | 1.5  |
|                  |  | SO <sub>2</sub>           | 0.1            | 0.1  |
|                  |  | VOC                       | 1.2            | 5.2  |
|                  |  | CO                        | 4.5            | 19.7 |
|                  |  | NO <sub>x</sub>           | 2.0            | 8.4  |
|                  |  | Pb**                      | 0.01           | 0.01 |
|                  |  | Arsenic                   | 0.01           | 0.01 |
|                  |  | Benzene                   | 0.01           | 0.01 |
|                  |  | Cadmium                   | 0.01           | 0.01 |
|                  |  | Chromium (III)            | 0.01           | 0.01 |
|                  |  | Cobalt                    | 0.01           | 0.01 |
|                  |  | Formaldehyde              | 0.01           | 0.01 |
|                  |  | Hexane                    | 0.05           | 0.2  |
|                  |  | Manganese                 | 0.01           | 0.01 |
|                  |  | Mercury                   | 0.01           | 0.01 |
|                  |  | Naphthalene               | 0.01           | 0.01 |
|                  |  | Nickel                    | 0.01           | 0.01 |
|                  |  | POM                       | 0.01           | 0.01 |
|                  |  | Toluene                   | 0.01           | 0.01 |
| SN-54            | Tissue   | PM                        | 0.3            | 1.1  |



| EMISSION SUMMARY |  |                           |                |      |
|------------------|--|---------------------------|----------------|------|
| Source #         | Description  | Pollutant                 | Emission Rates |      |
|                  |  |                           | lb/hr          | tpy  |
|                  | Machine No. 5 Dust System  | PM <sub>10</sub>          | 0.3            | 1.1  |
|                  |  | PM <sub>2.5</sub>         | 0.3            | 1.1  |
| SN-68            | Tissue Machine No. 5   | PM                        | 8.3            | 9.4  |
|                  |  | PM <sub>10</sub> (Total)  | 0.9            | 3.6  |
|                  |  | PM <sub>2.5</sub> (Total) | 0.6            | 2.4  |
|                  |  | VOC                       | 13.0           | 57.0 |
|                  |  | Acetone***                | 0.07           | 0.27 |
|                  |  | 1,2,4-Trichlorobenzene    | 0.01           | 0.04 |
|                  |  | Acetaldehyde              | 0.03           | 0.10 |
|                  |  | Benzene                   | 0.01           | 0.01 |
|                  |  | Carbon Disulfide          | 0.01           | 0.02 |
|                  |  | Chlorobenzene             | 0.01           | 0.01 |
|                  |  | Chloroform                | 0.01           | 0.01 |
|                  |  | Ethyl Benzene             | 0.01           | 0.01 |
|                  |  | Methyl Isobutyl Ketone    | 0.01           | 0.01 |
|                  |  | Methylene Chloride**      | 0.01           | 0.05 |
|                  |  | n-Hexane                  | 0.01           | 0.01 |
|                  |  | Phenol                    | 0.04           | 0.17 |
|                  |  | Propionaldehyde           | 0.04           | 0.17 |
|                  |  | Styrene                   | 0.01           | 0.01 |
|                  |  | Tetrachloroethylene**     | 0.01           | 0.02 |
|                  |  | Toluene                   | 0.01           | 0.01 |
|                  |  | Trichloroethylene         | 0.01           | 0.01 |
|                  |  | Xylenes (mixed isomers)   | 0.01           | 0.01 |
|                  |  | Naphthalene               | 0.01           | 0.01 |
|                  |  | POM                       | 0.01           | 0.01 |
| SN-48            | Tissue Machine No. 6 Burners, Yankee Hood, and Process Emissions | PM                        | 0.4            | 1.8  |
|                  |  | PM <sub>10</sub> (Total)  | 0.9            | 3.7  |
|                  |  | PM <sub>2.5</sub> (Total) | 0.7            | 2.9  |
|                  |  | SO <sub>2</sub>           | 0.1            | 0.2  |
|                  |  | VOC                       | 0.3            | 1.4  |
|                  |  | CO                        | 4.7            | 20.6 |
|                  |  | NO <sub>x</sub>           | 3.8            | 16.7 |
|                  |  | Pb**                      | 0.01           | 0.01 |
|                  |  | Arsenic                   | 0.01           | 0.01 |

| EMISSION SUMMARY |                                  |                           |                |       |
|------------------|----------------------------------|---------------------------|----------------|-------|
| Source #         | Description                      | Pollutant                 | Emission Rates |       |
|                  |                                  |                           | lb/hr          | tpy   |
|                  |                                  | Benzene                   | 0.01           | 0.01  |
|                  |                                  | Cadmium                   | 0.01           | 0.01  |
|                  |                                  | Chromium (III)            | 0.01           | 0.01  |
|                  |                                  | Cobalt                    | 0.01           | 0.01  |
|                  |                                  | Formaldehyde              | 0.01           | 0.02  |
|                  |                                  | Hexane                    | 0.09           | 0.38  |
|                  |                                  | Manganese                 | 0.01           | 0.01  |
|                  |                                  | Mercury                   | 0.01           | 0.01  |
|                  |                                  | Naphthalene               | 0.01           | 0.01  |
|                  |                                  | Nickel                    | 0.01           | 0.01  |
|                  |                                  | POM                       | 0.01           | 0.01  |
|                  |                                  | Toluene                   | 0.01           | 0.01  |
| SN-52            | Tissue Machine No. 6 Dust System | PM                        | 0.5            | 1.9   |
|                  |                                  | PM <sub>10</sub>          | 0.5            | 1.9   |
|                  |                                  | PM <sub>2.5</sub>         | 0.5            | 1.9   |
| SN-69            | Tissue Machine No. 6             | PM                        | 6.0            | 26.2  |
|                  |                                  | PM <sub>10</sub> (Total)  | 2.3            | 10.0  |
|                  |                                  | PM <sub>2.5</sub> (Total) | 1.5            | 6.6   |
|                  |                                  | VOC                       | 26.7           | 116.6 |
|                  |                                  | Acetone***                | 0.18           | 0.75  |
|                  |                                  | 1,2,4-Trichlorobenzene    | 0.03           | 0.12  |
|                  |                                  | Acetaldehyde              | 0.06           | 0.27  |
|                  |                                  | Benzene                   | 0.01           | 0.02  |
|                  |                                  | Carbon Disulfide          | 0.02           | 0.05  |
|                  |                                  | Chlorobenzene             | 0.01           | 0.01  |
|                  |                                  | Chloroform                | 0.01           | 0.01  |
|                  |                                  | Ethyl Benzene             | 0.01           | 0.01  |
|                  |                                  | Methyl Isobutyl Ketone    | 0.01           | 0.03  |
|                  |                                  | Methylene Chloride**      | 0.03           | 0.12  |
|                  |                                  | Naphthalene               | 0.01           | 0.03  |
|                  |                                  | n-Hexane                  | 0.01           | 0.02  |
|                  |                                  | Phenol                    | 0.11           | 0.46  |
|                  |                                  | POM                       | 0.01           | 0.03  |
|                  |                                  | Propionaldehyde           | 0.11           | 0.47  |
|                  |                                  | Styrene                   | 0.01           | 0.03  |

| EMISSION SUMMARY |  |                           |                |      |
|------------------|--|---------------------------|----------------|------|
| Source #         | Description  | Pollutant                 | Emission Rates |      |
|                  |  |                           | lb/hr          | tpy  |
|                  |  | Tetrachloroethylene**     | 0.01           | 0.04 |
|                  |  | Toluene                   | 0.01           | 0.01 |
|                  |  | Trichloroethylene         | 0.01           | 0.01 |
|                  |  | Xylenes (mixed isomers)   | 0.01           | 0.01 |
| SN-49            | Tissue Machine No. 7 Burners, Yankee Hood, and Process Emissions | PM                        | 0.8            | 3.4  |
|                  |  | PM <sub>10</sub> (Total)  | 0.8            | 3.4  |
|                  |  | PM <sub>2.5</sub> (Total) | 0.7            | 2.7  |
|                  |  | SO <sub>2</sub>           | 0.1            | 0.2  |
|                  |  | VOC                       | 0.3            | 1.0  |
|                  |  | CO                        | 3.4            | 14.8 |
|                  |  | NO <sub>x</sub>           | 4.0            | 17.6 |
|                  |  | Pb**                      | 0.01           | 0.01 |
|                  |  | Arsenic                   | 0.01           | 0.01 |
|                  |  | Benzene                   | 0.01           | 0.01 |
|                  |  | Cadmium                   | 0.01           | 0.01 |
|                  |  | Chromium (III)            | 0.01           | 0.01 |
|                  |  | Cobalt                    | 0.01           | 0.01 |
|                  |  | Formaldehyde              | 0.01           | 0.02 |
|                  |  | Hexane                    | 0.09           | 0.38 |
|                  |  | Manganese                 | 0.01           | 0.01 |
|                  |  | Mercury                   | 0.01           | 0.01 |
|                  |  | Naphthalene               | 0.01           | 0.01 |
|                  |  | Nickel                    | 0.01           | 0.01 |
|                  |  | POM                       | 0.01           | 0.01 |
|                  |  | Toluene                   | 0.01           | 0.01 |
| SN-50            | Tissue Machine No. 7 Dust System                                 | PM                        | 0.5            | 2.1  |
|                  |  | PM <sub>10</sub>          | 0.5            | 2.1  |
|                  |  | PM <sub>2.5</sub>         | 0.5            | 2.1  |
| SN-70            | Tissue Machine No. 7   | PM                        | 5.6            | 24.3 |
|                  |  | PM <sub>10</sub> (Total)  | 2.2            | 9.3  |
|                  |  | PM <sub>2.5</sub> (Total) | 1.4            | 6.1  |
|                  |  | VOC                       | 17.7           | 77.4 |
|                  |  | Acetone***                | 0.16           | 0.7  |
|                  |  | 1,2,4-Trichlorobenzene    | 0.03           | 0.11 |
|                  |  | Acetaldehyde              | 0.06           | 0.25 |

| EMISSION SUMMARY |  |                           |                |      |
|------------------|--|---------------------------|----------------|------|
| Source #         | Description  | Pollutant                 | Emission Rates |      |
|                  |  |                           | lb/hr          | tpy  |
|                  |  | Benzene                   | 0.01           | 0.02 |
|                  |  | Carbon Disulfide          | 0.01           | 0.05 |
|                  |  | Chlorobenzene             | 0.01           | 0.01 |
|                  |  | Chloroform                | 0.01           | 0.01 |
|                  |  | Ethyl Benzene             | 0.01           | 0.01 |
|                  |  | Methyl Isobutyl Ketone    | 0.01           | 0.03 |
|                  |  | Methylene Chloride**      | 0.03           | 0.11 |
|                  |  | Naphthalene               | 0.01           | 0.03 |
|                  |  | n-Hexane                  | 0.01           | 0.02 |
|                  |  | Phenol                    | 0.1            | 0.43 |
|                  |  | POM                       | 0.01           | 0.03 |
|                  |  | Propionaldehyde           | 0.1            | 0.43 |
|                  |  | Styrene                   | 0.01           | 0.02 |
|                  |  | Tetrachloroethylene**     | 0.01           | 0.03 |
|                  |  | Toluene                   | 0.01           | 0.01 |
|                  |  | Trichloroethylene         | 0.01           | 0.01 |
|                  |  | Xylenes (mixed isomers)   | 0.01           | 0.01 |
| SN-79            | Tissue Machine No. 8 Burners, Yankee Hood, and Process Emissions | PM                        | 0.7            | 3.0  |
|                  |  | PM <sub>10</sub> (Total)  | 0.7            | 3.0  |
|                  |  | PM <sub>2.5</sub> (Total) | 0.7            | 3.0  |
|                  |  | SO <sub>2</sub>           | 0.1            | 0.2  |
|                  |  | VOC                       | 0.8            | 3.5  |
|                  |  | CO                        | 6.2            | 27.0 |
|                  |  | NO <sub>x</sub>           | 3.8            | 16.4 |
|                  |  | Pb**                      | 0.01           | 0.01 |
|                  |  | Arsenic                   | 0.01           | 0.01 |
|                  |  | Benzene                   | 0.01           | 0.01 |
|                  |  | Cadmium                   | 0.01           | 0.01 |
|                  |  | Chromium (III)            | 0.01           | 0.01 |
|                  |  | Cobalt                    | 0.01           | 0.01 |
|                  |  | Formaldehyde              | 0.01           | 0.02 |
|                  |  | Hexane                    | 0.09           | 0.38 |
|                  |  | Manganese                 | 0.01           | 0.01 |
|                  |  | Mercury                   | 0.01           | 0.01 |
|                  |  | Naphthalene               | 0.01           | 0.01 |
|                  |  | Nickel                    | 0.01           | 0.01 |

| EMISSION SUMMARY |                                   |                           |                |      |
|------------------|-----------------------------------|---------------------------|----------------|------|
| Source #         | Description                       | Pollutant                 | Emission Rates |      |
|                  |                                   |                           | lb/hr          | tpy  |
| SN-80            | Tissue Machine No. 8              | POM                       | 0.01           | 0.01 |
|                  |                                   | Toluene                   | 0.01           | 0.01 |
|                  |                                   | PM                        | 1.6            | 6.9  |
|                  |                                   | PM <sub>10</sub> (Total)  | 1.4            | 6.2  |
|                  |                                   | PM <sub>2.5</sub> (Total) | 0.8            | 3.2  |
|                  |                                   | VOC                       | 13.6           | 59.6 |
|                  |                                   | Acetone***                | 0.16           | 0.71 |
|                  |                                   | 1,2,4-Trichlorobenzene    | 0.03           | 0.11 |
|                  |                                   | Acetaldehyde              | 0.06           | 0.25 |
|                  |                                   | Benzene                   | 0.01           | 0.02 |
|                  |                                   | Carbon Disulfide          | 0.01           | 0.05 |
|                  |                                   | Chlorobenzene             | 0.01           | 0.01 |
|                  |                                   | Chloroform                | 0.01           | 0.01 |
|                  |                                   | Ethyl Benzene             | 0.01           | 0.01 |
|                  |                                   | Methyl Isobutyl Ketone    | 0.01           | 0.03 |
|                  |                                   | Methylene Chloride**      | 0.03           | 0.11 |
|                  |                                   | Naphthalene               | 0.01           | 0.03 |
|                  |                                   | n-Hexane                  | 0.01           | 0.02 |
|                  |                                   | Phenol                    | 0.1            | 0.43 |
|                  |                                   | POM                       | 0.01           | 0.03 |
|                  |                                   | Propionaldehyde           | 0.1            | 0.44 |
|                  |                                   | Styrene                   | 0.01           | 0.02 |
|                  |                                   | Tetrachloroethylene**     | 0.01           | 0.03 |
|                  |                                   | Toluene                   | 0.01           | 0.01 |
|                  |                                   | Trichloroethylene         | 0.01           | 0.01 |
|                  |                                   | Xylenes (mixed isomers)   | 0.01           | 0.01 |
| SN-81            | Tissue Machine No. 8 Dust System  | PM                        | 1.8            | 7.7  |
|                  |                                   | PM <sub>10</sub>          | 1.8            | 7.7  |
|                  |                                   | PM <sub>2.5</sub>         | 1.8            | 7.7  |
| SN-93            | Tissue Mill Repulpers A, B, and C | VOC                       | 1.0            | 4.4  |
|                  |                                   | Chloroform                | 0.99           | 4.32 |
|                  |                                   | PM                        | 0.3            | 1.2  |
|                  |                                   | PM <sub>10</sub>          | 0.3            | 1.2  |
|                  |                                   | PM <sub>2.5</sub>         | 0.3            | 1.2  |

| EMISSION SUMMARY |  |                   |                |      |
|------------------|--|-------------------|----------------|------|
| Source #         | Description                                      | Pollutant         | Emission Rates |      |
|                  |  |                   | lb/hr          | tpy  |
| SN-45            | Spectrum Printer                                 | VOC               | 1.8            | 4.3  |
|                  |  | Total HAPs****    | 0.08           | 0.08 |
| SN-111, 112, 113 | Converting Lines No. 1, 2, and 3                 | VOC               | 1.8            | 7.9  |
|                  |  | Total HAPs****    | 0.48           | 0.90 |
| SN-141           | Legacy Converting Lines                          | VOC               | 5.6            | 24.6 |
|                  |  | Total HAPs****    | 1.32           | 2.82 |
| SN-142, 143      | CF1 and CF2 Converting Lines                     | VOC               | 1.3            | 4.6  |
|                  |  | Total HAPs****    | 0.24           | 0.42 |
| SN-115ct         | No. 8 Tissue Machine Vacuum Pump Cooling Tower   | PM                | 0.1            | 0.3  |
|                  |  | PM <sub>10</sub>  | 0.1            | 0.2  |
|                  |  | PM <sub>2.5</sub> | 0.1            | 0.1  |
| SN-116ct         | No. 8 Tissue Machine Chiller Cooling Tower       | PM                | 0.1            | 0.3  |
|                  |  | PM <sub>10</sub>  | 0.1            | 0.2  |
|                  |  | PM <sub>2.5</sub> | 0.1            | 0.1  |
| SN-117ct         | Converting Building HVAC Cooling Tower           | PM                | 0.1            | 0.3  |
|                  |  | PM <sub>10</sub>  | 0.1            | 0.2  |
|                  |  | PM <sub>2.5</sub> | 0.1            | 0.1  |
| SN-144           | No. 8 Tissue Machine Miscellaneous Cooling Tower | PM                | 0.1            | 0.1  |
|                  |  | PM <sub>10</sub>  | 0.1            | 0.1  |
|                  |  | PM <sub>2.5</sub> | 0.1            | 0.1  |
| SN-18            | 5A Boiler  | PM                | 0.5            | 2.2  |
|                  |  | PM <sub>10</sub>  | 2.0            | 8.6  |

| EMISSION SUMMARY |             |                   |                |       |
|------------------|-------------|-------------------|----------------|-------|
| Source #         | Description | Pollutant         | Emission Rates |       |
|                  |             |                   | lb/hr          | tpy   |
|                  |             | PM <sub>2.5</sub> | 2.0            | 8.6   |
|                  |             | SO <sub>2</sub>   | 0.2            | 0.7   |
|                  |             | VOC               | 1.5            | 6.2   |
|                  |             | CO                | 21.7           | 94.7  |
|                  |             | NO <sub>x</sub>   | 72.1           | 315.6 |
|                  |             | Pb**              | 0.01           | 0.01  |
|                  |             | Arsenic           | 0.01           | 0.01  |
|                  |             | Benzene           | 0.01           | 0.01  |
|                  |             | Cadmium           | 0.01           | 0.01  |
|                  |             | Chromium (III)    | 0.01           | 0.01  |
|                  |             | Cobalt            | 0.01           | 0.01  |
|                  |             | Formaldehyde      | 0.02           | 0.09  |
|                  |             | Hexane            | 0.47           | 2.03  |
|                  |             | Manganese         | 0.01           | 0.01  |
|                  |             | Mercury           | 0.01           | 0.01  |
|                  |             | Naphthalene       | 0.01           | 0.01  |
|                  |             | Nickel            | 0.01           | 0.01  |
|                  |             | POM               | 0.01           | 0.01  |
|                  |             | Toluene           | 0.01           | 0.01  |
| SN-19            | 6A Boiler   | PM                | 0.8            | 3.5   |
|                  |             | PM <sub>10</sub>  | 3.2            | 13.9  |
|                  |             | PM <sub>2.5</sub> | 3.2            | 13.9  |
|                  |             | SO <sub>2</sub>   | 0.3            | 1.1   |
|                  |             | VOC               | 2.3            | 10.1  |
|                  |             | CO                | 35.1           | 153.7 |
|                  |             | NO <sub>x</sub>   | 117.0          | 512.1 |
|                  |             | Pb**              | 0.01           | 0.01  |
|                  |             | Arsenic           | 0.01           | 0.01  |
|                  |             | Benzene           | 0.01           | 0.01  |
|                  |             | Cadmium           | 0.01           | 0.01  |
|                  |             | Chromium (III)    | 0.01           | 0.01  |
|                  |             | Cobalt            | 0.01           | 0.01  |
|                  |             | Formaldehyde      | 0.04           | 0.14  |
|                  |             | Hexane            | 0.76           | 3.3   |
|                  |             | Manganese         | 0.01           | 0.01  |
|                  |             | Mercury           | 0.01           | 0.01  |

| EMISSION SUMMARY |             |                                     |                |        |
|------------------|-------------|-------------------------------------|----------------|--------|
| Source #         | Description | Pollutant                           | Emission Rates |        |
|                  |             |                                     | lb/hr          | tpy    |
|                  |             | Naphthalene                         | 0.01           | 0.01   |
|                  |             | Nickel                              | 0.01           | 0.01   |
|                  |             | POM                                 | 0.01           | 0.01   |
|                  |             | Toluene                             | 0.01           | 0.01   |
| SN-22            | 9A Boiler   | PM                                  | 77.4           | 339.1  |
|                  |             | PM <sub>10</sub>                    | 77.4           | 339.1  |
|                  |             | PM <sub>2.5</sub>                   | 77.4           | 339.1  |
|                  |             | SO <sub>2</sub>                     | 145.3          | 262.2  |
|                  |             | VOC                                 | 11.3           | 49.4   |
|                  |             | CO                                  | 366.2          | 1604.0 |
|                  |             | NO <sub>x</sub>                     | 196.0          | 858.5  |
|                  |             | Pb**                                | 0.03           | 0.13   |
|                  |             | Acetone***                          | 0.13           | 0.54   |
|                  |             | Hydrogen Fluoride***                | 0.01           | 0.03   |
|                  |             | Trichlorofluoromethane***           | 0.01           | 0.05   |
|                  |             | 1,1,1-Trichloroethane**             | 0.03           | 0.1    |
|                  |             | 1,2,4-Trichlorobenzene              | 0.01           | 0.01   |
|                  |             | 1,2-Dichloroethane                  | 0.02           | 0.08   |
|                  |             | 1,2-Dichloropropane                 | 0.01           | 0.05   |
|                  |             | 1,4-Dichlorobenzene                 | 0.16           | 0.70   |
|                  |             | 2,3,7,8-Tetrachlorodibenzo-p-dioxin | 0.01           | 0.01   |
|                  |             | 2,4,6-Trichlorophenol               | 0.01           | 0.01   |
|                  |             | 2,4-Dinitrophenol                   | 0.01           | 0.01   |
|                  |             | 2,4-Dinitrotoluene                  | 0.01           | 0.01   |
|                  |             | 4-Nitrophenol                       | 0.01           | 0.01   |
|                  |             | 4,6-Dinitro-o-cresol                | 0.01           | 0.01   |
|                  |             | Acetaldehyde                        | 0.09           | 0.4    |
|                  |             | Acetophenone                        | 0.01           | 0.01   |
|                  |             | Acrolein                            | 0.08           | 0.32   |
|                  |             | Antimony                            | 0.01           | 0.01   |
|                  |             | Arsenic                             | 0.01           | 0.03   |
|                  |             | Benzene                             | 0.14           | 0.59   |
|                  |             | Beryllium                           | 0.01           | 0.01   |
|                  |             | Bis(2-Ethylhexyl)phthalate          | 0.01           | 0.01   |
|                  |             | Bromomethane                        | 0.01           | 0.01   |
|                  |             | Cadmium                             | 0.01           | 0.01   |



| EMISSION SUMMARY |             |                         |                |       |
|------------------|-------------|-------------------------|----------------|-------|
| Source #         | Description | Pollutant               | Emission Rates |       |
|                  |             |                         | lb/hr          | tpy   |
|                  |             | Carbon Disulfide        | 0.08           | 0.32  |
|                  |             | Carbon Tetrachloride    | 0.01           | 0.03  |
|                  |             | Chlorobenzene           | 0.01           | 0.05  |
|                  |             | Chloroform              | 0.01           | 0.01  |
|                  |             | Chloromethane           | 0.02           | 0.07  |
|                  |             | Chromium (III)          | 0.01           | 0.03  |
|                  |             | Chromium (VI)           | 0.01           | 0.01  |
|                  |             | Cobalt                  | 0.01           | 0.01  |
|                  |             | Cumene                  | 0.02           | 0.05  |
|                  |             | Dibutyl phthalate       | 0.02           | 0.09  |
|                  |             | Ethyl Benzene           | 0.02           | 0.08  |
|                  |             | Formaldehyde            | 0.24           | 1.04  |
|                  |             | Hexachlorobenzene       | 0.01           | 0.01  |
|                  |             | Hexane                  | 1.52           | 6.64  |
|                  |             | Hydrochloric Acid       | 0.07           | 0.28  |
|                  |             | Hydrogen Cyanide        | 0.02           | 0.06  |
|                  |             | Manganese               | 0.08           | 0.32  |
|                  |             | Mercury                 | 0.01           | 0.01  |
|                  |             | Methanol                | 0.28           | 1.21  |
|                  |             | Methyl Isobutyl Ketone  | 0.26           | 1.12  |
|                  |             | Methylene Chloride**    | 0.02           | 0.08  |
|                  |             | Naphthalene             | 0.01           | 0.03  |
|                  |             | Nickel                  | 0.01           | 0.03  |
|                  |             | Pentachlorophenol       | 0.01           | 0.01  |
|                  |             | Phenol                  | 0.01           | 0.04  |
|                  |             | POM                     | 0.07           | 0.27  |
|                  |             | Phosphorus              | 0.06           | 0.25  |
|                  |             | Propionaldehyde         | 0.02           | 0.06  |
|                  |             | Selenium                | 0.01           | 0.01  |
|                  |             | Styrene                 | 0.01           | 0.04  |
|                  |             | Tetrachloroethylene**   | 0.02           | 0.07  |
|                  |             | Toluene                 | 0.01           | 0.02  |
|                  |             | Trichloroethylene       | 0.02           | 0.05  |
|                  |             | Vinyl Chloride          | 0.02           | 0.05  |
|                  |             | Xylenes (mixed isomers) | 0.01           | 0.02  |
| SN-35            | Wastewater  | VOC                     | 59.5           | 181.2 |

| EMISSION SUMMARY |  |                         |                |       |
|------------------|--|-------------------------|----------------|-------|
| Source #         | Description  | Pollutant               | Emission Rates |       |
|                  |  |                         | lb/hr          | tpy   |
|                  | Treatment System                                   | Ammonia                 | 0.06           | 0.25  |
|                  |  | TRS                     | 45.2           | 188.2 |
|                  |  | Hydrogen Sulfide***     | 32.18          | 141   |
|                  |  | Acetaldehyde            | 0.27           | 1.17  |
|                  |  | Acrolein                | 0.01           | 0.01  |
|                  |  | Carbon Disulfide        | 0.17           | 0.47  |
|                  |  | Chloroform              | 0.23           | 0.6   |
|                  |  | Formaldehyde            | 0.01           | 0.02  |
|                  |  | Methanol                | 45.76          | 131.6 |
|                  |  | Methyl Chloride         | 0.02           | 0.05  |
|                  |  | Methylene Chloride**    | 0.01           | 0.03  |
|                  |  | Naphthalene             | 0.04           | 0.09  |
|                  |  | Phenol                  | 0.01           | 0.01  |
|                  |  | POM                     | 0.04           | 0.09  |
| SN-78F           | Road Emissions                                     | PM                      | 17.9           | 57.5  |
|                  |  | PM <sub>10</sub>        | 4.5            | 14.3  |
|                  |  | PM <sub>2.5</sub>       | 0.6            | 1.7   |
| SN-82F           | Landfill Operations                                | VOC                     | 0.3            | 1.0   |
|                  |  | Benzene                 | 0.02           | 0.08  |
|                  |  | Ethyl Benzene           | 0.01           | 0.05  |
|                  |  | Toluene                 | 0.15           | 0.65  |
|                  |  | Xylenes (mixed isomers) | 0.04           | 0.16  |
| SN-115           | Caterpillar Model 3406 Firewater Pump Engine No. 1 | PM                      | 1.0            | 0.3   |
|                  |  | PM <sub>10</sub>        | 1.0            | 0.3   |
|                  |  | PM <sub>2.5</sub>       | 1.0            | 0.3   |
|                  |  | SO <sub>2</sub>         | 0.9            | 0.3   |
|                  |  | VOC                     | 1.1            | 0.3   |
|                  |  | CO                      | 2.9            | 0.8   |
|                  |  | NO <sub>x</sub>         | 13.1           | 3.3   |
|                  |  | Acetaldehyde            | 0.01           | 0.01  |
|                  |  | Benzene                 | 0.01           | 0.01  |
|                  |  | Formaldehyde            | 0.01           | 0.01  |
|                  |  | Naphthalene             | 0.01           | 0.01  |
|                  |  | POM                     | 0.01           | 0.01  |
|                  |  | Toluene                 | 0.01           | 0.01  |
|                  |  | Xylenes (mixed isomers) | 0.01           | 0.01  |

| EMISSION SUMMARY |  |                         |                |      |
|------------------|--|-------------------------|----------------|------|
| Source #         | Description  | Pollutant               | Emission Rates |      |
|                  |  |                         | lb/hr          | tpy  |
| SN-116           | Caterpillar<br>Model<br>3406<br>Firewater<br>Pump<br>Engine No.<br>2 | PM                      | 1.0            | 0.3  |
|                  |  | PM <sub>10</sub>        | 1.0            | 0.3  |
|                  |  | PM <sub>2.5</sub>       | 1.0            | 0.3  |
|                  |  | SO <sub>2</sub>         | 0.9            | 0.3  |
|                  |  | VOC                     | 1.1            | 0.3  |
|                  |  | CO                      | 2.9            | 0.8  |
|                  |  | NO <sub>x</sub>         | 13.1           | 3.3  |
|                  |  | Acetaldehyde            | 0.01           | 0.01 |
|                  |  | Benzene                 | 0.01           | 0.01 |
|                  |  | Formaldehyde            | 0.01           | 0.01 |
|                  |  | Naphthalene             | 0.01           | 0.01 |
|                  |  | POM                     | 0.01           | 0.01 |
|                  |  | Toluene                 | 0.01           | 0.01 |
|                  |  | Xylenes (mixed isomers) | 0.01           | 0.01 |
| SN-117           | Caterpillar<br>Model<br>3406<br>Firewater<br>Pump<br>Engine No.<br>3 | PM                      | 1.0            | 0.3  |
|                  |  | PM <sub>10</sub>        | 1.0            | 0.3  |
|                  |  | PM <sub>2.5</sub>       | 1.0            | 0.3  |
|                  |  | SO <sub>2</sub>         | 0.9            | 0.3  |
|                  |  | VOC                     | 1.1            | 0.3  |
|                  |  | CO                      | 2.9            | 0.8  |
|                  |  | NO <sub>x</sub>         | 13.1           | 3.3  |
|                  |  | Acetaldehyde            | 0.01           | 0.01 |
|                  |  | Benzene                 | 0.01           | 0.01 |
|                  |  | Formaldehyde            | 0.01           | 0.01 |
|                  |  | Naphthalene             | 0.01           | 0.01 |
|                  |  | POM                     | 0.01           | 0.01 |
|                  |  | Toluene                 | 0.01           | 0.01 |
|                  |  | Xylenes (mixed isomers) | 0.01           | 0.01 |
| SN-118           | John Deere<br>JU6H-<br>UF58<br>Firewater<br>Pump<br>Engine No.<br>1  | PM                      | 0.2            | 0.1  |
|                  |  | PM <sub>10</sub>        | 0.2            | 0.1  |
|                  |  | PM <sub>2.5</sub>       | 0.1            | 0.1  |
|                  |  | SO <sub>2</sub>         | 0.3            | 0.1  |
|                  |  | VOC                     | 0.1            | 0.1  |
|                  |  | CO                      | 0.3            | 0.1  |
|                  |  | NO <sub>x</sub>         | 1.8            | 0.5  |
|                  |  | Acetaldehyde            | 0.01           | 0.01 |

| EMISSION SUMMARY |   |                         |                |      |
|------------------|---|-------------------------|----------------|------|
| Source #         | Description   | Pollutant               | Emission Rates |      |
|                  |   |                         | lb/hr          | tpy  |
|                  |   | Benzene                 | 0.01           | 0.01 |
|                  |   | Formaldehyde            | 0.01           | 0.01 |
|                  |   | Naphthalene             | 0.01           | 0.01 |
|                  |   | POM                     | 0.01           | 0.01 |
|                  |   | Toluene                 | 0.01           | 0.01 |
|                  |   | Xylenes (mixed isomers) | 0.01           | 0.01 |
| SN-119           | John Deere<br>JU6H-<br>UF58<br>Firewater<br>Pump<br>Engine No.<br>2 | PM                      | 0.2            | 0.1  |
|                  |   | PM <sub>10</sub>        | 0.2            | 0.1  |
|                  |   | PM <sub>2.5</sub>       | 0.2            | 0.1  |
|                  |   | SO <sub>2</sub>         | 0.3            | 0.1  |
|                  |   | VOC                     | 0.1            | 0.1  |
|                  |   | CO                      | 0.3            | 0.1  |
|                  |   | NO <sub>x</sub>         | 1.8            | 0.5  |
|                  |   | Acetaldehyde            | 0.01           | 0.01 |
|                  |   | Benzene                 | 0.01           | 0.01 |
|                  |   | Formaldehyde            | 0.01           | 0.01 |
|                  |   | Naphthalene             | 0.01           | 0.01 |
|                  |   | POM                     | 0.01           | 0.01 |
|                  |   | Toluene                 | 0.01           | 0.01 |
|                  |   | Xylenes (mixed isomers) | 0.01           | 0.01 |
| SN-120           | Cummins<br>382<br>Leachate<br>Pump<br>Backup<br>Engine              | PM                      | 0.2            | 0.1  |
|                  |   | PM <sub>10</sub>        | 0.2            | 0.1  |
|                  |   | PM <sub>2.5</sub>       | 0.2            | 0.1  |
|                  |   | SO <sub>2</sub>         | 0.2            | 0.1  |
|                  |   | VOC                     | 0.3            | 0.1  |
|                  |   | CO                      | 0.6            | 0.2  |
|                  |   | NO <sub>x</sub>         | 2.8            | 0.7  |
|                  |   | Acetaldehyde            | 0.01           | 0.01 |
|                  |   | Benzene                 | 0.01           | 0.01 |
|                  |   | Formaldehyde            | 0.01           | 0.01 |
|                  |   | Naphthalene             | 0.01           | 0.01 |
|                  |   | POM                     | 0.01           | 0.01 |
|                  |   | Toluene                 | 0.01           | 0.01 |
|                  |   | Xylenes (mixed isomers) | 0.01           | 0.01 |
| SN-145           | Water Bath<br>Heater  | PM                      | 0.1            | 0.1  |
|                  |   | PM <sub>10</sub>        | 0.1            | 0.1  |

| EMISSION SUMMARY |             |                   |                |      |
|------------------|-------------|-------------------|----------------|------|
| Source #         | Description | Pollutant         | Emission Rates |      |
|                  |             |                   | lb/hr          | tpy  |
|                  |             | PM <sub>2.5</sub> | 0.1            | 0.1  |
|                  |             | SO <sub>2</sub>   | 0.1            | 0.1  |
|                  |             | VOC               | 0.1            | 0.1  |
|                  |             | CO                | 0.3            | 1.1  |
|                  |             | NO <sub>x</sub>   | 0.3            | 1.3  |
|                  |             | Pb                | 0.01           | 0.01 |
|                  |             | Arsenic           | 0.01           | 0.01 |
|                  |             | Benzene           | 0.01           | 0.01 |
|                  |             | Cadmium           | 0.01           | 0.01 |
|                  |             | Chromium (III)    | 0.01           | 0.01 |
|                  |             | Cobalt            | 0.01           | 0.01 |
|                  |             | Formaldehyde      | 0.01           | 0.01 |
|                  |             | Hexane            | 0.01           | 0.03 |
|                  |             | Manganese         | 0.01           | 0.01 |
|                  |             | Mercury           | 0.01           | 0.01 |
|                  |             | Naphthalene       | 0.01           | 0.03 |
|                  |             | Nickel            | 0.01           | 0.01 |
|                  |             | POM               | 0.01           | 0.03 |
|                  |             | Toluene           | 0.01           | 0.01 |

\*PM<sub>2.5</sub> limits are source specific, if required. Not all sources have PM<sub>2.5</sub> limits.

\*\*HAPs **not** included in the VOC or PM totals.

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

\*\*\*\*Tissue Mill Converting HAPs includes all HAPs directly used in the tissue converting process (SN-45, 111, 112, 113, 141, 142, and 143).

### SECTION III: PERMIT HISTORY

**Permit #: 16-A and Permit #: 68-A:** The first paper machine at Georgia-Pacific Crossett Paper Operations was constructed in 1937. On March 27, 1970, Georgia-Pacific was issued its first permit, Permit #16-A. On August 30, 1971 Georgia-Pacific was issued its second permit, Permit #68-A.

**Permit #: 133-A,** issued on December 15, 1972, allowed the installation of an extrusion and a laminating machine.

**Permit #: 137-A** was also issued on December 15, 1972. It permitted the installation of a fume scrubber on the digester feed system to control emissions from the digester and the installation of a cyclone and baghouse to control emissions from the sanding operations.

**Permit #: 144-A,** issued on March 28, 1973, allowed the installation of the 9A power boiler. Permit #149-A was also issued on March 28, 1973. It permitted the installation of an odor control system to collect, hold and distribute gases which are normally vented from the pulp mill digesters. The gases are burned in the lime kiln.

**Permit #: 140-A** was issued on July 23, 1976. This permit dealt with equipment maintenance problems such as the repair of boilers and the replacement of control devices. This permit allowed Georgia-Pacific to operate an additional boiler to provide steam while the existing boilers are taken out of service for repairs.

**Permit #: 411-A,** issued to Georgia-Pacific on May 27, 1977, permitted the installation of a venturi scrubber for the control of lime dust emissions from the lime slaker and lime handling system at the mill.

**Permit #: 597-A,** issued to Georgia-Pacific on March 6, 1980, permitted the installation of new equipment in the pulping and power utility areas. In the pulping area the 8R Recovery Furnace, the No. 4 Lime Kiln, a set of evaporators, new digesters and new washers were installed. In the power utility area two wood fire boilers each equipped with a multicclone and a venturi scrubber were installed.

**Permit #: 597-AR-1 and Permit #: 597-AR-2:** Permit #597-AR-1 was issued on July 23, 1982. It was modified by Permit #597-AR-2, issued on November 1, 1984. Permit #597-AR-2 superseded all previously issued air permits. Permit #597-AR-2 allowed Georgia-Pacific to convert a recovery furnace to a power boiler, the 10A Boiler. This was a major modification of a major stationary source and therefore was subject to PSD review. Only NO<sub>x</sub> and CO became subject to the PSD requirements because of reductions in all the other pollutants. Modeling predicted that the ambient air concentrations due to the increase in NO<sub>x</sub> and CO emission would be less than the de minimis levels. Therefore, preconstruction ambient air monitoring was not required.

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**Permit #: 597-AR-3** was issued to Georgia-Pacific on August 18, 1988. Emission limits for the 10A Boiler, 8R Recovery Furnace and the No. 4 Lime Kiln were revised as the result of testing. Permit #597-AR-4 was issued on July 11, 1989. Expansions at the bleach plant were permitted. Permit #597-AR-5 was issued to Georgia-Pacific on March 18, 1993. This permit included sources at the mill that were not previously permitted. It allowed Georgia-Pacific to burn Tire Derived Fuel (TDF), other scrap rubber products and Refuse Derived Fuel (RDF) in the 10A and 9A Boilers. In addition, a new hardwood brownstock washer system was installed to replace the existing drum washers installed in 1968.

**Permit #: 1449-A:** Georgia-Pacific was issued a Prevention of Significant Deterioration (PSD) permit, Permit #1449-A, on May 18, 1993. Stack testing of the 8R Recovery Furnace showed that the current permitted emission rate for NO<sub>x</sub> was not attainable. The allowable emission rate of NO<sub>x</sub> from the 8R Recovery Furnace was increased by 402.1 tons per year, thus triggering PSD review.

**Permit #: 597-AOP-R0**, issued on February 28, 1997, was the first operating air permit issued to Georgia-Pacific Corporation Crossett Paper Operations under Regulation #26. This permit incorporated sources that were not previously permitted. Some allowable emission rates were modified from the previous permit to reflect new emission factors, new test data and/or alternate fuel. This permit also incorporated the Prevention of Significant Deterioration (PSD) permit application submitted in relation to the installation of the new No. 8 Tissue Machine.

**Permit #: 597-AOP-R1**, issued on June 29, 1999, was the second Title V operating permit issued to Georgia-Pacific Corporation –Crossett Paper Operations under Regulation #26. The changes in this permit were solely related to air pollutant emission rates and did not affect the mill's production limits established in the original Title V permit. One purpose of this modification was to address the requirements of a CAO regarding carbon monoxide emissions from the Bleach Plant Scrubber (SN-30). Due to a lack of industry or regulatory information suggesting otherwise, carbon monoxide emissions from the bleach plant were not included in Permit #597-AOP-R0. Specific Condition #73 of that permit required Georgia-Pacific to test for carbon monoxide emissions from SN-30. The required stack testing was performed on September 24, 1997. Emission rates were derived from the stack tests and were added to the permit.

On February 15, 1999, revised versions of Regulations #18 and #19 became effective. All regulatory citations in the permit were changed in 597-AOP-R1 to reflect the new regulations. Compliance demonstrations for all opacity limits have been added to the permit. Opacity demonstrations include, but are not limited to, daily or weekly observations and monitoring of control equipment operating parameters. The compliance demonstrations for all emission limits have been specifically identified in the permit. Applicable provisions of NSPS and NESHAP Subparts have been written into the permit.

The second purpose of this modification was to address the addition of pollution control equipment to comply with the requirements of 40 C.F.R. Part 63 Subpart S – National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry (NESHAP Subpart S or

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Cluster Rule). This modification qualified as a Pollution Control Project (PCP), and thus the new point source (an Incinerator, SN-83) was exempt from PSD.

Section 19.8 of Regulation #19 provides that the Lime Kiln at GP Crossett should have a TRS emission limit of 8 ppm. Because a source limited to 5 ppm was routed to the Lime Kiln, the lime kiln was assigned a 5 ppm limit. 597-AOP-R1 stipulated that once the HVLC system was outed to collect the emissions from the 5 ppm source, the emission rate for the Lime Kiln could be raised back to 8 ppm. This change has been completed.

**Permit #: 597-AOP-R2** was finalized on December 14, 1999. A typographical error was made in a previous permit application which listed the minimum scrubbing liquid flow rate to the #4 tissue machine scrubber (SN-67) as 300 gpm. The actual minimum scrubber flow rate was 70 gpm. Note that the #4 and #5 tissue machine scrubbers are similar and that the #5 tissue machine minimum scrubbing flow rate was also 70 gpm. There was no emission increase associated with this minor modification.

On March 29, 1999, EPA Region 6 issued GP Crossett Paper Operations a NOV addressing the failure to install a continuous opacity monitor for SN-03, the 10A boiler. The current permit will be revised, in a timely manner, to assure compliance with any new applicable requirements resulting from the resolution of this issue.

**Permit #: 597-AOP-R3** was finalized on December 14, 2001. This modification, which required PSD review, allowed the Crossett Mill to add the No. 9 Machine to produce tissue and towel. The No. 9 Machine was projected to have a production capacity of 250 Machine Dried Tons of paper (MDT) per day. The installation included the machine itself along with associated stock preparation and converting equipment. The proposed modification exceeded the PSD significant rate thresholds for PM<sub>10</sub>, VOC, CO, and NO<sub>x</sub>.

**Permit #: 597-AOP-R4** was finalized on November 12, 2003. The Georgia-Pacific Crossett – Paper Operations facility renewed their Title V permit and included CAM requirements for SN-03, SN-22, SN-50, SN-81, and SN-83. Also included with the renewal permit were four modifications, two of which were minor.

The first modification was to rebuild a Repulper (SN-93) damaged by a fire. The second minor modification involved the installation of an additional electrostatic treater and associated burner to the No. 8 Extruder, SN-71.

Previous to this modification, particulate emissions for the incinerator were underestimated. The assumed stack gas temperature and moisture content were also assumed incorrectly. In addition, the scrubber removal efficiency for particulate was actually 93% instead of 95% as stated in the application. Air Permit 597-AOP-R4 corrected these values.

Carbon monoxide emissions from the bleach plant, resulting from the converting of bleaching operations to elemental chlorine free (ECF) bleaching, were also previously underestimated. The new permit acknowledged that the source required a permitted increase of 242.6 tons of CO



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per year. Limited data was available at the time of the modification to illustrate any potential increase in CO emissions and none was assumed. The bleach plant conversion was part of a modification which included a PCP (Pollution Control Project) involving an incinerator (SN-83). Both of these changes allowed the facility to comply with Cluster Rule requirements.

**Permit #: 597-AOP-R5** was finalized on November 12, 2003. The permit was modified to include applicable requirements of NESHAP Subpart MM – National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills. Affected sources include Smelt Dissolving Tank (East and West, SN-27A and B), the No. 4 Lime Kiln (SN-25), and the 8R Recovery Furnace (SN-26). The permitted particulate emissions at the lime kiln were reduced to comply with the standards of the subpart. The current controls at SN-25, as indicated by stack test data, were sufficient to comply with the more stringent PM emission limit. The permitted particulate emission rate at SN-25 was decreased by 20.5 tons per year. Permitted limits, at the time, were sufficient to meet the established standards set forth in the subpart for the recovery furnace and smelt dissolving tanks.

**Permit #: 597-AOP-R6** was finalized on May 31, 2005. The facility modified their permit in order to allow for the relaxation of the O<sub>2</sub> limits for the 10A Boiler (SN-03) during periods of startup, shutdown, and malfunction. There is no actual or permitted emission increase as a result of this modification.

Furthermore, two activities were added to the Insignificant Activity list. First, the baghouse for the Perini Towel Rewinder and Spectrum Towel Printer has been included as an A-13 activity. The Spectrum Towel Printer, which uses inks of low weight percent VOC and no HAPs, were also added as an A-13 activity.

**Permit #: 597-AOP-R7** was finalized on December 5, 2005. An allowance to the permit was added for the continued operation of the No. 4 Tissue Machine (SN-66) during the repair of its dust control equipment (SN-67). This allowance has been granted to the facility's other paper machines since the renewal permit.

**Permit #: 597-AOP-R8** was finalized May 12, 2006. This revision allowed the facility to modify nine of their Digesters (SN-59) by replacing the six-inch blow valves with eight-inch valves. The modification resulted in an increase in hardwood pulp production of approximately 50 tons per day. The facility is also requested the ability to receive 1.5% sulfur fuel oil while still keeping a 1.0% sulfur average on a 30-day basis. This change affected SN-19, SN-22, SN-25, and SN-26. The facility is also recalculated both criteria and non-criteria pollutants from many of their permitted sources. This recalculation has resulted in a significant drop in annual permitted rates for most criteria pollutants. Several small, existing sources were added to the permit, which were overlooked in the initial and renewal permits: A and B Side Causticizers (SN-98 and 99), White Liquor Storage Tanks (SN-100), and the 9A and 10A Boiler Bark Transfer systems (SN-101 and SN-102). The facility has also requested to remove the No. 9 Paper Machine sources, SN-84 through SN-92 from the permit. The machine was never installed.

**Permit #: 597-AOP-R9** was finalized on April 2, 2007. This revision was to incorporate the provisions of the Health-Based Compliance Alternatives for Manganese for Total Selected Metals (TSM), contained within Appendix A to 40 C.F.R. 63, Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

**Permit #: 597-AOP-R10** was finalized on April 2, 2007. This PSD revision was submitted for replacement of the economizer section of the 8R Recovery Furnace; installation of steam boxes on Machines 6, 7 and 8; upgrades and changes in the causticizing area; and modifications to the pine and hardwood screen rooms.

**Permit #: 597-AOP-R11** was finalized on November 1, 2007. This modification was for the replacement of the No. 6 Tissue Machine Burners (SN-48). The facility replaced the existing Hauck burners with Maxon burners rated at 20.5 MMBTU/hr each. With this revision, the PM/PM<sub>10</sub> and VOC BACT limits for the No. 6 Tissue Machine decreased. SO<sub>2</sub>, CO, NO<sub>x</sub> factors and associated BACT limits remained unchanged. In addition to this modification, the Health Based Compliance conditions for the Boiler MACT (NESHAP DDDDD) were removed since that subpart has been vacated.

**Permit #: 597-AOP-R12** was finalized on May 5, 2008. This modification was to revise CAM parameters for the 10A (SN-03) and 9A (SN-22) Boilers. The facility, in future testing events, must operate the scrubbers at these sources at the minimum CAM parameters. The facility has also applied for a minor modification to allow for an alternative operating scenario for maintenance on the scrubbers associated with the 10A (SN-03) and 9A (SN-22) Boilers. This condition is similar to the conditions established for monitoring of scrubber parameters on the dust collection systems for the Tissue Machines.

**Permit #: 597-AOP-R13** was finalized on August 4, 2011. This modification rebuilt the No. 8 Tissue Machine (SN-80) and installed three new converting lines (SN-111, 112, and 113) plus a trim line system to process the improved product made on the rebuilt tissue machine and three new cooling towers (SN-115ct, SN-116ct, and SN-117ct). Permitted emission increases from these changes are 1.7 tpy PM/PM<sub>10</sub> and 19.7 tpy VOC.

**Permit #: 597-AOP-R14** was finalized on May 23, 2012. This modification reduced the maximum hourly emission rate of sulfur dioxide for its 9A Boiler (SN-22). This emission reduction was achieved through limiting use of specification grade oil as a fuel. Actual emission rates shall decrease as a result of this limit, however permitted PM<sub>10</sub> emissions shall increase because new emission factors and safety factors that were used in emission calculations. The increase to permitted emissions is 95.7 tpy PM/PM<sub>10</sub>. The decreases to permitted emissions are 877 tpy SO<sub>2</sub>, 0.1 tpy VOC, and 96.1 tpy NO<sub>x</sub>.

**Permit #: 597-AOP-R15** was finalized on May 5, 2014. This permitting action was requested in order to incorporate a 1,000 gallon kerosene storage tank (A-3), the natural gas igniter for the 8R Recovery Furnace (SN-26), cooling towers (SN-123, SN-124, SN-125, SN-126, and SN-

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122), two 6,000 gallon storage tanks (A-3), a Woodyard Bark Blowline and Cyclone (A-13), Extrusion Poly Bead Silos (A-13), Three Caustic Storage Tanks (23,868 gal, 66,000 gal, and 121,000 gal , A-4), and emissions from a temporary wet strength materials storage and production (SN-68, SN-69, and SN-70). Additional HAPs were added to the No. 5, 6, and 7 Paper Machines (SN-68, 69, and 70). The Aeration Stabilization Basin (SN-35F) HAP emissions were updated based upon recent testing.

**Permit #: 0597-AOP-R16** was issued on March 11, 2015. This permitting action added a Reject Chip Reclaim System and replaced the existing Tissue Mill Cooling Tower with a more efficient REYMSA Tissue Mill Cooling Tower. All of these changes were Insignificant Activities in category A-13. Specific Condition 226 was updated to match current permitting practice. There were no changes to the facility's emission limits.

**Permit #: 0597-AOP-R17** was issued on February 23, 2016. This permitting action updated the applicability determination for the Tissue Machine No. 8 (SN-80) by removing any references to 40 C.F.R. Part 63, Subpart JJJJ. SN-80 was not subject to NESHAP JJJJ. This modification removed the natural gas limit found in Specific Condition 96 for the natural gas igniter. The emissions associated with the natural gas igniter system were already accounted for in the emissions associated with the 8R Recovery Furnace (SN-26). Additionally, the facility removed the throughput restriction of 1.0 gal/min ultra low sulfur diesel (ULSD) that was found in Specific Condition 96. The ULSD restriction was not necessary. The facility had the authority to combust ULSD as found in Permit 0597-AOP-R12 when the facility requested permission to combust ULSD in 2008. A second minor modification application was submitted on November 20, 2015. This permitting action allowed for the removal of the Green Liquor Stabilization Tank (SN-109), as this source was never constructed. The existing dregs washer was replaced with a new pre-coat filter (SN-108). The total permitted emission increases from both applications included 0.01 tpy of Methylene Chloride. The total permitted emission decreases from both applications included 1.2 tpy of VOC, 0.3 tpy of TRS, 0.01 tpy of Acetaldehyde, 0.01 tpy of Benzene, 0.01 tpy of Chloroform, 0.12 tpy of Cresol, 0.58 tpy of Methanol, 0.09 tpy of Phenol, 0.01 tpy of Tetrachloroethylene, and 0.7 tpy of Acetone.

**Permit #: 0597-AOP-R18** was issued on July 11, 2016. This PSD permitting modification revised the CO BACT limit established for Tissue Machine No. 8 Burners (SN-79). The total permitted emission increases include 2.04 tpy of CO. The total permitted emission decreases include 0.6 tpy of PM/PM<sub>10</sub>, 0.7 tpy of VOC, 3.6 tpy of NO<sub>x</sub>, and 0.16 tpy of Hexane. During the comment period, the Department received correspondence from EPA Region VI regarding EPA's withdrawal of approval of alternative monitoring procedure for pulp washing system (chemiwashers) at Georgia-Pacific LLC's Crossett Paper Operations. The permit was updated to remove the previously approved alternative monitoring procedure for SN-33 and SN-34. Specific Condition 74.e of the draft permit was removed.

**Permit #: 0597-AOP-R19** was issued on September 24, 2019. This permitting action renewed the Title V permit for the facility with a number of changes. Permit conditions were organized in terms of production area, and source descriptions were revised. The permit included two minor modifications. The first allowed construction of three liquor tanks (SN-128D, SN-129F, and SN-

133C), and modifications to an existing liquor tank (permitted as SN-128C). The second minor modification allowed construction of two new tissue converting lines—the CF1 and CF2 Converting Lines (SN-142 and SN-143). In addition, the following sources were added to the permit: a Spectrum Printer (SN-45), EOP Stage Vents (SN-127), Pre-Coat Mud Filters (SN-130), a Pre-Coat Mud Filter Vacuum Pump System (SN-131), Lime Storage Silos (SN-132), Mud Washer Storage Tanks (SN-134), a Board Machine Starch Silo (SN-138), Fine Paper Machine Starch Silos (SN-139), Legacy Converting Lines (SN-141). Applicable requirements of 40 C.F.R. § 63 Subparts KK and DDDDD were incorporated in the permit, and TRS and H<sub>2</sub>S limits for the Wastewater Treatment System (SN-35) added. Emission factors and calculations were updated. Permitted emissions increased 162.6 tpy PM<sub>10</sub>; 40.8 tpy VOC; 0.03 tpy lead; 234.4 tpy TRS, and 155.00 tpy H<sub>2</sub>S, and decreased 252.6 tpy SO<sub>2</sub>; 10.34 tpy CO; 132.9 tpy NO<sub>x</sub>.

**Permit #: 0597-AOP-R20** was issued on July 23, 2020 to address several permit applications: four (4) Minor Modifications, two (2) Administrative Amendments, and a Modification. This revision included the following changes. The existing Tissue Machine 8 Miscellaneous Cooling Tower (SN-122) was replaced with a lower emitting unit—Tissue Machine 8 Miscellaneous Cooling Tower (SN-144). A Water Bath Heater (SN-145) was added as a permitted source. VOC emission limits for the CF1 and CF2 Converting Lines (SN-142 and SN-143) increased. The HAP limits for several Tissue Mill Converting sources—the Spectrum Printer (SN-45), Converting Lines No. 1, 2, and 3 (SN-111 through 113), Legacy Converting Lines (SN-141), and CF1 and CF2 Converting Lines (SN-142 and SN-143)—were combined to include a single limit for Total HAPs. Permit conditions for the 9A and 10A Boilers were revised to address a fuel switch resulting in the applicability of a different subcategory of 40 C.F.R. 63, Subpart DDDDD (Boiler MACT). In addition, the boiler revisions clarify opacity requirements and exclude operating and monitoring requirements for the associated wet scrubbers during periods in which natural gas is the only source of fuel. The following sources were also removed from the permit: Hardwood Pulping Line Fugitive Emissions (SN-33); Softwood Pulping Line Fugitive Emissions (SN-34); Hardwood Decker System (SN-60); Softwood Decker System (SN-61); Blow Heat Accumulator Cooling Tower (SN-124); Batch Digesters (SN-59); Incinerator w/ SO<sub>2</sub> Scrubber (SN-83); Bleach Plant (SN-30); Methanol Tank (SN-40); Bleach Plant Chiller Cooling Tower (SN-125); EOP Stage Vents (SN-127); 8R Recovery Furnace (SN-26); Salt Cake Mix Tank (SN-96); Smelt Dissolving Tank East (SN-27A); Smelt Dissolving Tank West (SN-27A); Lime Kiln (SN-25); Lime Slaker Vent #1 (SN-55F); Lime Slaker Vent #2 (SN-56F); Green Liquor Clarifier (SN-94); “A” Side Causticizers (SN-94); “B” Side Causticizers (SN-99); White Liquor Clarifiers (SN-105); Mud Mix Tank & Washer System (SN-106); Pre-Coats Filter (SN-108); Caterpillar 3116 Backup Lime Kiln Rotation Engine (SN-121); Pre-Coat Mud Filters (SN-130); Pre-Coat Mud Filter Vacuum Pump System (SN-131); Lime Storage Silos (2) (SN-132); Mud Washer Storage Tanks (2) (SN-134); Fine Paper Machine No. 1 (SN-62); Fine Paper Machine No. 2 (SN-63); Fine Paper Machine Starch Silos (SN-139 A&B); Board Machine No. 3 (SN-64); Board Machine No. 3 Burners (SN-65); Board Machine Starch Silo (SN-138); Tissue Machine No. 4 Burners (SN-46); Tissue Machine No. 4 (SN-66); and the Tissue Machine No. 4 Dust System (SN-67).

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As a result of these modifications, permitted emissions decreased 561.8 tpy PM; 624.3 tpy PM<sub>10</sub>; 424.0 tpy PM<sub>2.5</sub>; 425.4 tpy SO<sub>2</sub>; 544.0 tpy VOC; 6,883.9 tpy CO; 1,424 tpy NO<sub>x</sub>; 0.08 tpy lead; 213.7 tpy TRS; 276.58 tpy other HAPs, and 165.89 tpy other air contaminants.

**Permit #: 0597-AOP-R21** was issued October 20, 2020. With this revision, the following sources were removed from the permit as an Administrative Amendment: Woodyard (SN-57); Unbleached Pulp High Density Storage Chests (SN-75 (A-C)); Pulp Mill Weak Black Liquor Storage Tank (9) (SN-97); Temporary Debarking and Chipping Equipment (SN-114); Weak Black Liquor Storage Tanks (4) (SN-128); Heavy Black Liquor Storage Tanks (6) (SN-129); White Liquor Storage Tanks (2) (SN-100); White Liquor/Weak Black Liquor Storage Tanks (3) (SN-133); 10A Boiler (SN-03); 10A Boiler Bark Transfer System (SN-101); No. 8 Extruder Machine (SN-71); No. 9 Extruder Machine (SN-72); Extrusion Cooling Tower (SN-126); Comp 1 (Big) Cooling Tower (SN-123). As a result, permitted emissions decreased 464.9 tpy PM; 532.0 tpy PM<sub>10</sub>; 520.6 tpy PM<sub>2.5</sub>; 93.4 tpy SO<sub>2</sub>; 1880.4 tpy VOC; 2654.5 tpy CO; 2212.0 tpy NO<sub>x</sub>; 0.28 tpy lead; 23.9 tpy TRS; 65.34 tpy other HAPs, and 14.89 tpy other air contaminants.

**Permit #: 0597-AOP-R22** was issued February 23, 2021. This revision removed the Weak Black Liquor Storage Basin (SN-76F) as an Administrative Amendment. Permitted emissions decreased 52.0 tpy VOC; 0.1 tpy TRS, and 51.87 tpy HAPs.

## SECTION IV: SPECIFIC CONDITIONS

### Woodyard

#### Source Description

##### 9A Boiler Bark Transfer System

The emissions within the 9A Boiler Bark Transfer System are bubbled under SN-102. The bark from the woodyard is sent through the bark blow line to the 9A Boiler Bark Blowline Cyclone (SN-102S) and conveyed to the 9A Boiler Bark Pile (SN-102T). Purchased bark delivered by truck at the 9A truck bark dump along with rejected bark are collected in the 9A bin and conveyed to a bark hog before being conveyed to the 9A bark pile. Bark is fed into the 9A Boiler feed system and rejected bark is conveyed either to the 9A reject pile or back to the 9A bin.

SN-102

#### Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on the maximum capacity of the equipment. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN  | Description                    | Pollutant         | lb/hr | ton/yr |
|-----|--------------------------------|-------------------|-------|--------|
| 102 | 9A Boiler Bark Transfer System | PM <sub>10</sub>  | 0.8   | 0.5    |
|     |                                | PM <sub>2.5</sub> | 0.2   | 0.1    |

2. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on the maximum capacity of the equipment. [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 | ton/yr |
|-----|--------------------------------|-----------|-------|--------|
| 102 | 9A Boiler Bark Transfer System | PM        | 1.7   | 1.0    |

### Bleach Plant

#### Source Description

The bleach plant area no longer serves the original purpose of bleaching brown stock for use in the mill's paper/tissue machines. However, the Bleached Pulp High Density Storage Chests (SN-75 D-I) are used to store purchased pulp for use in the mill's tissue converting operation.

#### SN-75 D-I

#### Specific Conditions

3. The permittee shall not exceed the emission rates set forth in the following table. Emission rates, for these sources, are effectively limited by the number of units at the facility. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN     | Description                               | Pollutant | lb/hr | tpy   |
|--------|---|-----------|-------|-------|
| 75 D-I | Bleached Pulp High Density Storage Chests | VOC       | 29.1  | 127.2 |
|        |   | TRS       | 0.4   | 1.5   |

4. The permittee shall not exceed the emission rates set forth in the following table. Emission rates, for these sources, are effectively limited by the number of units at the facility. [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  |
|--------|---|------------------------|-------|------|
| 75 D-I | Bleached Pulp High Density Storage Chests | Acetone                | 0.01  | 0.03 |
|        |   | Hydrogen Sulfide       | 0.01  | 0.01 |
|        |   | 1,1,2-Trichloroethane  | 0.01  | 0.01 |
|        |   | Acetaldehyde           | 0.01  | 0.02 |
|        |   | Benzene                | 0.01  | 0.01 |
|        |   | Chlorobenzene          | 0.01  | 0.01 |
|        |   | Chloroform             | 0.04  | 0.16 |
|        |   | Methanol               | 0.18  | 0.76 |
|        |   | Methyl Isobutyl Ketone | 0.01  | 0.01 |
|        |   | n-Hexane               | 0.01  | 0.01 |

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| SN | Description | Pollutant               | lb/hr | tpy  |
|----|-------------|-------------------------|-------|------|
|    |             | Phenol                  | 0.05  | 0.21 |
|    |             | Propionaldehyde         | 0.01  | 0.01 |
|    |             | Styrene                 | 0.01  | 0.01 |
|    |             | Tetrachloroethylene     | 0.01  | 0.01 |
|    |             | Toluene                 | 0.01  | 0.01 |
|    |             | Trichloroethylene       | 0.01  | 0.01 |
|    |             | Xylenes (mixed isomers) | 0.01  | 0.01 |



## **Tissue Mill Converting**

### **Source Description**

#### Tissue Machines

There are currently four tissue machines (Tissue Machines No. 5 through No. 8) at the Crossett facility, which manufacture tissue and towel base sheets that can be converted into bathroom tissue, towels, facial tissues, and napkins. Purchased dried pulp is shipped to the facility in baled form, which is repulped and diluted on-site. The reconstituted pulp is supplied to the four tissue machines in varying proportions of hardwood and softwood pulp depending upon the desired product. The tissue papermaking process involves stock preparation, wet end section (wire section, felt and/or fabric section), dry end section (dryer), and the reel section (reels), as well as the broke systems which reprocess scrap tissue. Pulp stock is made into paper by forming a sheet on a continuously moving wire screen; removing water by gravity, vacuum and drying with heated rolls and/or heated air. White water removed from the stock is collected for reuse in stock preparation or sewerage as wastewater. Particulates from the dry end and reel sections of the four tissue machines are controlled by dedicated dust systems on each machine. The Tissue Machine Nos. 5, 6, 7, and 8 Dust Systems (SN-54, 52, 50, and 81, respectively) are equipped with wet venturi scrubbers to control particulate emissions as determined as BACT in the R0 permit. Fugitive emissions from the stock preparation, broke system, machine vacuum pumps, and wet and dry ends of the machines have been bubbled together for each of Tissue Machine Nos. 5, 6, 7, and 8 (SN-68, 69, 70, and 80, respectively). The Tissue Machine No. 5, 6, 7, and 8 Burners, Yankee Hoods, and Processes are permitted as SN-47, 48, 49, and 79, respectively. Clean fuel, good combustion practices, and low NO<sub>x</sub> burners were determined to be BACT for the gas burners in Tissue Machine Nos. 5, 6, 7, and 8 (SN-47, 48, 49, and 79, respectively) in the R0 permit. There are four cooling towers used for Tissue Machine operations, including the No. 8 Tissue Machine Vacuum Pump Cooling Tower (SN-115ct), No. 8 Tissue Machine Chiller Cooling Tower (SN-116ct), No. 8 Tissue Machine Miscellaneous Cooling Tower (SN-144), and the REYSMA Tissue Mill Cooling Tower (Insignificant Activity Group A-13).

#### Converting Operations

In the tissue converting area, large parent rolls of tissue from the tissue machines are converted into finished consumer products. Converting operations may also receive parent rolls from other GP facilities to convert it into similar consumer products. Converting operations include such processes as rewinding tissue product onto smaller sized rolls, paper core forming, printing, slitting, packaging and shipping. The Legacy converting lines receive tissue paper from Tissue Machine Nos. 5 through 7. All fugitive VOC emissions from the converting lines, which are co-located in the Legacy Building, are bubbled as one source. The Spectrum Towel Printer (SN-45) may be utilized in the Legacy tissue production process for printing tissue paper and is subject to 40 C.F.R. 63 Subpart KK because it is a wide-web flexographic printer. Tissue Machine No. 8 supplies tissue to Converting Lines No. 1, 2, and 3 (SN-111, SN-112, and SN-113) for processing into finished tissue. All fugitive VOC emissions from Converting Lines No. 1, 2, and 3 are bubbled as one source. The CF1 and CF2 Converting Lines (SN-142 and SN-143) receive tissue paper from Tissue Machine Nos. 5, 6, 7, or 8 as needed. The Legacy Converting Lines, Converting Lines No. 1, 2, and 3, and the CF1 and CF2 Converting Lines are subject to 40

C.F.R. 63 Subpart JJJJ (Paper and Other Web-Coating MACT). All VOC emissions generated from the converting lines at the facility are due to the use of inks, glues, and cleaners. Dust generated in all tissue converting areas is collected using exhaust hoods and controlled using fabric filters (baghouses) or drum filters, with 100% of exhaust air recycled back into the converting buildings.

In the Legacy converting area, tissue trim scrap generated from the converting lines is pneumatically and/or manually conveyed to Tissue Repulpers A and B (SN-93). Air separation of trim scrap collection occurs at the repulpers and the dust is removed by water spray at the outlet to the sewer. Tissue Repulper A may also receive purchased pulp and both A and B may also receive broke, which is repulped into machine stock.

Trim scrap from Converting Lines 1, 2, 3, CF1, and CF2 (SN-111, SN-112, SN-113, SN-142, and SN-143) is pneumatically conveyed to the machine broke system D repulper (no VOC or HAP chemical usage), which is considered Group A-13 Insignificant Activities due to low level of PM emissions. Transfer air from the trim system is routed through a drum filter to remove dust and the air is returned to the converting building with no outlet. Tissue Repulper D may also receive broke.

Purchased pulp is repulped into machine stock at Repulper C (SN-93) and C2. The C2 repulper is considered a Group A-13 Insignificant Activity due to the low level of PM emissions.

The A-C repulpers may use sodium hypochlorite to break-down the trim scrap into pulp. The repulpers send reprocessed broke to the tissue machine broke storage chests.

The Converting Building HVAC Cooling Tower (SN-117ct) is used for temperature control in the No. 8 Tissue Machine Converting Building.

SN-47, 54, and 68

#### Specific Conditions

5. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #12, 13, and 14. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN | Description  | Pollutant                 | lb/hr | ton/yr |
|----|--|---------------------------|-------|--------|
| 47 | Tissue Machine No. 5 Burners, Yankee Hood, and Process Emissions | PM <sub>10</sub> (Total)  | 0.4   | 1.5    |
|    |  | PM <sub>2.5</sub> (Total) | 0.4   | 1.5    |
|    |  | Pb                        | 0.01  | 0.01   |
| 54 | Tissue Machine No. 5 Dust System                                 | PM <sub>10</sub>          | 0.3   | 1.1    |
|    |  | PM <sub>2.5</sub>         | 0.3   | 1.1    |
| 68 | Tissue Machine   | PM <sub>10</sub> (Total)  | 0.9   | 3.6    |

| SN | Description | Pollutant                 | lb/hr | ton/yr |
|----|-------------|---------------------------|-------|--------|
|    | No. 5       | PM <sub>2.5</sub> (Total) | 0.6   | 2.4    |

6. The permittee shall not exceed the BACT emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #12, 13, 14. [Reg.19.501 *et seq.* and Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

| SN | Description                  | Pollutant                     | lb/hr           | ton/yr         |
|----|------------------------------|-------------------------------|-----------------|----------------|
| 47 | Tissue Machine No. 5 Burners | PM                            | 0.4             | 1.5            |
|    |                              |                               | 0.0164 lb/MMBtu |                |
|    |                              | PM <sub>10</sub> (Filterable) | 0.4             | 1.5            |
|    |                              |                               | 0.0164 lb/MMBtu |                |
|    |                              | SO <sub>2</sub>               | 0.1             | 0.1            |
|    |                              |                               | 0.0007 lb/MMBtu |                |
|    |                              | VOC                           | 1.2             | 5.2            |
|    |                              |                               | 0.0564 lb/MMBtu |                |
|    |                              | CO                            | 4.5             | 19.7           |
|    |                              |                               | 0.2142 lb/MMBtu |                |
|    |                              | NO <sub>x</sub>               | 2.0             | 8.4            |
|    |                              |                               | 0.0913 lb/MMBtu |                |
| 68 | Tissue Machine No. 5         | VOC                           | 13.0            | 57.0           |
|    |                              |                               | 3.37 lb/ ADTFP* | Annual Average |

\*Air Dried Tons of Finished Paper

7. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #12 and 13. [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 | ton/yr |
|----|--|-----------------|-------|--------|
| 47 | Tissue Machine No. 5 Burners, Yankee Hood, and Process Emissions | PM (Filterable) | 0.3   | 1.4    |
|    |  | Arsenic         | 0.01  | 0.01   |
|    |  | Benzene         | 0.01  | 0.01   |
|    |  | Cadmium         | 0.01  | 0.01   |
|    |  | Chromium (III)  | 0.01  | 0.01   |
|    |  | Cobalt          | 0.01  | 0.01   |
|    |  | Formaldehyde    | 0.01  | 0.01   |

| SN | Description                         | Pollutant                  | lb/hr | ton/yr |
|----|-------------------------------------|----------------------------|-------|--------|
|    |                                     | Hexane                     | 0.05  | 0.20   |
|    |                                     | Manganese                  | 0.01  | 0.01   |
|    |                                     | Mercury                    | 0.01  | 0.01   |
|    |                                     | Naphthalene                | 0.01  | 0.01   |
|    |                                     | Nickel                     | 0.01  | 0.01   |
|    |                                     | POM                        | 0.01  | 0.01   |
|    |                                     | Toluene                    | 0.01  | 0.01   |
| 54 | Tissue Machine<br>No. 5 Dust System | PM                         | 0.3   | 1.1    |
| 68 | Tissue Machine<br>No. 5             | PM (Filterable)            | 2.2   | 9.4    |
|    |                                     | Acetone                    | 0.07  | 0.27   |
|    |                                     | 1,2,4-Trichlorobenzene     | 0.01  | 0.04   |
|    |                                     | Acetaldehyde               | 0.03  | 0.10   |
|    |                                     | Benzene                    | 0.01  | 0.01   |
|    |                                     | Carbon Disulfide           | 0.01  | 0.02   |
|    |                                     | Chlorobenzene              | 0.01  | 0.01   |
|    |                                     | Chloroform                 | 0.01  | 0.01   |
|    |                                     | Ethyl Benzene              | 0.01  | 0.01   |
|    |                                     | Methyl Isobutyl<br>Ketone  | 0.01  | 0.01   |
|    |                                     | Methylene Chloride         | 0.01  | 0.05   |
|    |                                     | Naphthalene                | 0.01  | 0.01   |
|    |                                     | n-Hexane                   | 0.01  | 0.01   |
|    |                                     | Phenol                     | 0.04  | 0.17   |
|    |                                     | POM                        | 0.01  | 0.01   |
|    |                                     | Propionaldehyde            | 0.04  | 0.17   |
|    |                                     | Styrene                    | 0.01  | 0.01   |
|    |                                     | Tetrachloroethylene        | 0.01  | 0.02   |
|    |                                     | Toluene                    | 0.01  | 0.01   |
|    |                                     | Trichloroethylene          | 0.01  | 0.01   |
|    |                                     | Xylenes (mixed<br>isomers) | 0.01  | 0.01   |

#### Opacity

- The permittee shall not cause to be discharged to the atmosphere from SN-47 and SN-54 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-47. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

9. Weekly observations of the opacity from SN-54 shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request.
  - a. The date and time of the observation.
  - b. If visible emissions which appeared to be above the permitted limit were detected.
  - c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the opacity observations. [Reg.19.705 and 40 C.F.R. § 52, Subpart E]
10. The permittee shall not cause to be discharged to the atmosphere from SN-68 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-68 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [Reg.19.503, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]
  - a. The date and time of the observation
  - b. If visible emissions were detected
  - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.

d. The name of the person conducting the observation.

11. The permittee may, in the event of emergency maintenance on SN-54, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [Reg.19.303 and Ark Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### Fuel Requirements

12. Natural gas shall be the only fuel used for the Tissue Machine No. 5 Burners (SN-47). [Reg.19.705, Ark Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

#### Production Limits

13. The permittee shall not produce in excess of 97 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 5. A conversion factor of 0.95 MDT/ADTFP is used to account for fiber loss. [Reg.18.1004, Reg.19.705, Ark Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
14. The permittee shall maintain records which demonstrate compliance with the paper production limits, paper machine VOC annual emission, and paper machine VOC BACT limits listed in Specific Conditions #6 and #13. The 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 twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [Reg.18.1004, Reg.19.705, 40 C.F.R. § 52 Subpart E, and Ark Code Ann. §§ 8-4-203 as referenced by 8-4-304 and §8-4-311]

#### Scrubber Monitoring

15. The scrubber shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate shall be measured at least every 15 minutes. Compliance with the limits in the following table shall be determined based on a daily average. The results shall be kept on site and be available to Department personnel upon request. [Reg.18.1104, Reg.19.303, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4 311]

| SN | Control Equipment | Parameter                     | Units                    | Minimum Operating Limits |
|----|-------------------|-------------------------------|--------------------------|--------------------------|
| 54 | scrubber          | liquid flow rate              | gal/min                  | 70                       |
|    |                   | gas pressure drop across unit | inches, H <sub>2</sub> O | 8                        |

#### Testing Requirements

16. The permittee shall test SN-47 for CO and NO<sub>x</sub> to verify compliance with the BACT emission limits specified in Specific Condition #7 every five years. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO<sub>x</sub> shall also be performed in accordance with EPA Reference Methods 10 and 7E respectively. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [Reg.19.702, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

SN-48, 52, and 69

#### Specific Conditions

17. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #25, 26, and 27. [Reg.19.501 and 40 C.F.R. § 52, Subpart E]

| SN | Description  | Pollutant                 | lb/hr | ton/yr |
|----|--|---------------------------|-------|--------|
| 48 | Tissue Machine No. 6 Burners, Yankee Hood, and Process Emissions | PM <sub>10</sub> (Total)  | 0.9   | 3.7    |
|    |  | PM <sub>2.5</sub> (Total) | 0.7   | 2.9    |
|    |  | Pb                        | 0.01  | 0.01   |
| 52 | Tissue Machine No. 6 Dust System                                 | PM <sub>10</sub>          | 0.5   | 1.9    |
|    |  | PM <sub>2.5</sub>         | 0.5   | 1.9    |
| 69 | Tissue Machine No. 6   | PM <sub>10</sub> (Total)  | 2.3   | 10.0   |
|    |  | PM <sub>2.5</sub> (Total) | 1.5   | 6.6    |

18. The permittee shall not exceed the BACT emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #25, 26, and 27. [Reg.19.501 *et seq.*, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | ton/yr |
|----|-------------|-----------|-------|--------|
|----|-------------|-----------|-------|--------|

| SN | Description                     | Pollutant                     | lb/hr                             | ton/yr |
|----|---------------------------------|-------------------------------|-----------------------------------|--------|
| 48 | Tissue Machine<br>No. 6 Burners | PM                            | 0.4                               | 1.8    |
|    |                                 |                               | 0.00912 lb/MMBtu                  |        |
|    |                                 | PM <sub>10</sub> (Filterable) | 0.4                               | 1.8    |
|    |                                 |                               | 0.00912 lb/MMBtu                  |        |
|    |                                 | SO <sub>2</sub>               | 0.1                               | 0.2    |
|    |                                 |                               | 0.0007 lb/MMBtu                   |        |
|    |                                 | VOC                           | 0.3                               | 1.4    |
|    |                                 |                               | 0.0066 lb/MMBtu                   |        |
|    |                                 | CO                            | 4.7                               | 20.6   |
|    |                                 |                               | 0.1139 lb/MMBtu                   |        |
| 69 | Tissue Machine<br>No. 6         | PM                            | 3.8                               | 16.7   |
|    |                                 |                               | 0.0913 lb/MMBtu                   |        |
|    |                                 | PM <sub>10</sub> (Filterable) | 6.0                               | 26.2   |
|    |                                 |                               | 0.5041 lb/ADTFP*                  |        |
|    |                                 | VOC                           | 1.6                               | 6.7    |
|    |                                 |                               | 0.1288 lb/ADTFP*                  |        |
|    |                                 |                               | 26.7                              | 116.6  |
|    |                                 |                               | 2.48 lb/ ADTFP*<br>Annual Average |        |

\*Air Dried Tons of Finished Paper

19. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #25 and 26. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description  | Pollutant       | lb/hr | ton/yr |
|----|--|-----------------|-------|--------|
| 48 | Tissue Machine<br>No. 6 Burners,<br>Yankee Hood,<br>and Process<br>Emissions | PM (Filterable) | 0.9   | 3.7    |
|    |  | Arsenic         | 0.01  | 0.01   |
|    |  | Benzene         | 0.01  | 0.01   |
|    |  | Cadmium         | 0.01  | 0.01   |
|    |  | Chromium (III)  | 0.01  | 0.01   |
|    |  | Cobalt          | 0.01  | 0.01   |
|    |  | Formaldehyde    | 0.01  | 0.02   |
|    |  | Hexane          | 0.09  | 0.38   |
|    |  | Manganese       | 0.01  | 0.01   |
|    |  | Mercury         | 0.01  | 0.01   |



| SN | Description                            | Pollutant                  | lb/hr | ton/yr |
|----|--|----------------------------|-------|--------|
|    |  | Naphthalene                | 0.01  | 0.01   |
|    |  | Nickel                     | 0.01  | 0.01   |
|    |  | POM                        | 0.01  | 0.01   |
|    |  | Toluene                    | 0.01  | 0.01   |
| 52 | Tissue Machine<br>No. 6 Dust<br>System | PM                         | 0.5   | 1.9    |
| 69 | Tissue Machine<br>No. 6                | Acetone                    | 0.18  | 0.75   |
|    |  | 1,2,4-Trichlorobenzene     | 0.03  | 0.12   |
|    |  | Acetaldehyde               | 0.06  | 0.27   |
|    |  | Benzene                    | 0.01  | 0.02   |
|    |  | Carbon Disulfide           | 0.02  | 0.05   |
|    |  | Chlorobenzene              | 0.01  | 0.01   |
|    |  | Chloroform                 | 0.01  | 0.01   |
|    |  | Ethyl Benzene              | 0.01  | 0.01   |
|    |  | Methyl Isobutyl<br>Ketone  | 0.01  | 0.03   |
|    |  | Methylene Chloride         | 0.03  | 0.12   |
|    |  | Naphthalene                | 0.01  | 0.03   |
|    |  | n-Hexane                   | 0.01  | 0.02   |
|    |  | Phenol                     | 0.11  | 0.46   |
|    |  | POM                        | 0.01  | 0.03   |
|    |  | Propionaldehyde            | 0.11  | 0.47   |
|    |  | Styrene                    | 0.01  | 0.03   |
|    |  | Tetrachloroethylene        | 0.01  | 0.04   |
|    |  | Toluene                    | 0.01  | 0.01   |
|    |  | Trichloroethylene          | 0.01  | 0.01   |
|    |  | Xylenes (mixed<br>isomers) | 0.01  | 0.01   |

#### Opacity

20. The permittee shall not cause to be discharged to the atmosphere from SN-48 and SN-52 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-48. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
21. Weekly observations of the opacity from SN-52 shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement

corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request.

- a. The date and time of the observation.
  - b. If visible emissions which appeared to be above the permitted limit were detected.
  - c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the opacity observations. [Reg.19.705 and 40 C.F.R. § 52, Subpart E]
22. The permittee shall not cause to be discharged to the atmosphere from SN-69 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-69 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [Reg.19.503, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]
  - a. The date and time of the observation.
  - b. If visible emissions were detected.
  - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
  - d. The name of the person conducting the observation.

#### Scrubber Monitoring

23. The permittee shall keep the scrubber on SN-52 in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the unit shall be measured daily. The results shall be kept on site and be available to the Department personnel upon request. [Reg.18.1104 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Control Equipment | Parameter                     | Units                    | Minimum Operating Limits |
|----|-------------------|-------------------------------|--------------------------|--------------------------|
| 52 | scrubber          | liquid flow rate              | gal/min                  | 300                      |
|    |                   | gas pressure drop across unit | inches, H <sub>2</sub> O | 8                        |

24. The permittee may, in the event of emergency maintenance on SN-52, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### Fuel Requirements

25. Natural gas shall be the only fuel used for the Tissue Machine No. 6 Burners (SN-48). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

#### Production Limits

26. The permittee shall not produce in excess of 270 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 6. A conversion factor of 0.95 MDT/ADTFP is used to account for fiber loss. [Reg.18.1004, 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]
27. The permittee shall maintain records which demonstrate compliance with the paper production limits, the paper machine VOC annual emissions, and the paper machine VOC BACT limits Specific Condition #18 and 26. The 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 twelve month rolling total and each individual month's data shall be submitted in accordance

with General Provision #7. [Reg.18.1004, Reg.19.705, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

### Testing Requirements

28. The permittee shall test SN-48 for CO and NO<sub>x</sub> to verify compliance with the BACT emission limits specified in Specific Condition 18 every five years thereafter. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO<sub>x</sub> shall also be performed in accordance with EPA Reference Methods 10 and 7E respectively. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [Reg.19.702, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

SN-49, 50, and 70

### Specific Conditions

29. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #36, 37, and 38. [Reg.19.501 *et seq.*, and 40 C.F.R. § 52, Subpart E]

| SN | Description   | Pollutant                 | lb/hr | ton/yr |
|----|---|---------------------------|-------|--------|
| 49 | Tissue Machine<br>No. 7 Burners,<br>Yankee Hood, and<br>Process Emissions | PM <sub>10</sub> (Total)  | 0.8   | 3.4    |
|    |   | PM <sub>2.5</sub> (Total) | 0.7   | 2.7    |
|    |   | SO <sub>2</sub>           | 0.1   | 0.2    |
|    |   | VOC                       | 0.3   | 1.0    |
|    |   | CO                        | 3.4   | 14.8   |
|    |   | NO <sub>x</sub>           | 4.0   | 17.6   |
|    |   | Pb                        | 0.01  | 0.01   |
| 50 | Tissue Machine<br>No. 7<br>Dust System                                    | PM <sub>10</sub>          | 0.5   | 2.1    |
|    |   | PM <sub>2.5</sub>         | 0.5   | 2.1    |
| 70 | Tissue Machine<br>No. 7   | PM <sub>10</sub> (Total)  | 2.2   | 9.3    |
|    |   | PM <sub>2.5</sub> (Total) | 1.4   | 6.1    |

30. The permittee shall not exceed the BACT emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #37 and 38. [Reg.19.501 *et seq.*, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

| SN | Description | Pollutant | lb/hr | ton/yr |
|----|-------------|-----------|-------|--------|
|----|-------------|-----------|-------|--------|

| SN | Description             | Pollutant                     | lb/hr                             | ton/yr |
|----|-------------------------|-------------------------------|-----------------------------------|--------|
| 70 | Tissue Machine<br>No. 7 | PM                            | 5.6                               | 24.3   |
|    |                         |                               | 0.5041 lb/ADTFP*                  |        |
|    |                         | PM <sub>10</sub> (Filterable) | 1.5                               | 6.2    |
|    |                         |                               | 0.1288 lb/ADTFP*                  |        |
|    |                         | VOC                           | 17.7                              | 77.4   |
|    |                         |                               | 1.78 lb/ ADTFP*<br>Annual Average |        |

\*Air Dried Tons of Finished Paper

31. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #36 and 37. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description   | Pollutant              | lb/hr | ton/yr |
|----|---|------------------------|-------|--------|
| 49 | Tissue Machine<br>No. 7 Burners,<br>Yankee Hood, and<br>Process Emissions | PM (Filterable)        | 0.8   | 3.4    |
|    |   | Arsenic                | 0.01  | 0.01   |
|    |   | Benzene                | 0.01  | 0.01   |
|    |   | Cadmium                | 0.01  | 0.01   |
|    |   | Chromium (III)         | 0.01  | 0.01   |
|    |   | Cobalt                 | 0.01  | 0.01   |
|    |   | Formaldehyde           | 0.01  | 0.02   |
|    |   | Hexane                 | 0.09  | 0.38   |
|    |   | Manganese              | 0.01  | 0.01   |
|    |   | Mercury                | 0.01  | 0.01   |
|    |   | Naphthalene            | 0.01  | 0.01   |
|    |   | Nickel                 | 0.01  | 0.01   |
|    |   | POM                    | 0.01  | 0.01   |
|    |   | Toluene                | 0.01  | 0.01   |
| 50 | Tissue Machine<br>No. 7 Dust System                                       | PM                     | 0.5   | 2.1    |
| 70 | Tissue Machine<br>No. 7   | Acetone                | 0.16  | 0.70   |
|    |   | 1,2,4-Trichlorobenzene | 0.03  | 0.11   |
|    |   | Acetaldehyde           | 0.06  | 0.25   |
|    |   | Benzene                | 0.01  | 0.02   |
|    |   | Carbon Disulfide       | 0.01  | 0.05   |
|    |   | Chlorobenzene          | 0.01  | 0.01   |
|    |   | Chloroform             | 0.01  | 0.01   |
|    |   | Ethyl Benzene          | 0.01  | 0.01   |

| SN | Description | Pollutant               | lb/hr | ton/yr |
|----|-------------|-------------------------|-------|--------|
|    |             | Methyl Isobutyl Ketone  | 0.01  | 0.03   |
|    |             | Methylene Chloride      | 0.03  | 0.11   |
|    |             | Naphthalene             | 0.01  | 0.03   |
|    |             | n-Hexane                | 0.01  | 0.02   |
|    |             | Phenol                  | 0.10  | 0.43   |
|    |             | POM                     | 0.01  | 0.03   |
|    |             | Propionaldehyde         | 0.10  | 0.43   |
|    |             | Styrene                 | 0.01  | 0.02   |
|    |             | Tetrachloroethylene     | 0.01  | 0.03   |
|    |             | Toluene                 | 0.01  | 0.01   |
|    |             | Trichloroethylene       | 0.01  | 0.01   |
|    |             | Xylenes (mixed isomers) | 0.01  | 0.01   |

#### Opacity

32. The permittee shall not cause to be discharged to the atmosphere from SN-49 and SN-50 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-49. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
33. Weekly observations of the opacity from SN-50 shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request.
  - a. The date and time of the observation.
  - b. If visible emissions which appeared to be above the permitted limit were detected.
  - c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the opacity observations. [Reg.19.705 and 40 C.F.R. § 52, Subpart E]

34. The permittee shall not cause to be discharged to the atmosphere from SN-70 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-70 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [Reg.19.503, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]
- a. The date and time of the observation.
  - b. If visible emissions were detected.
  - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
  - d. The name of the person conducting the observation.
35. The permittee may, in the event of emergency maintenance on SN-50, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### Fuel Requirements

36. Natural gas shall be the only fuel used for Tissue Machine No. 7 Burners (SN-49). [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

#### Production Limits

37. The permittee shall not produce in excess of 250 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 7. A conversion factor of 0.95 MDT/ADTFP is used to account for fiber loss. [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
38. The permittee shall maintain records which demonstrate compliance with the paper production limits, the VOC annual emissions, and the VOC BACT limits Specific Condition #30 and 37. The 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 twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [Reg.18.1004, Reg.19.705, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### CAM

39. The Tissue Machine No. 7 Dust System (SN-50) is subject to and shall comply with all applicable provisions of § 19.304 of Regulation 19, 40 C.F.R. § 52 Subpart E, and Part § 64.6 for Compliance Assurance Monitoring. Post control of particulate emissions from SN-50 is below major source levels.
  - a. The permittee shall maintain a scrubber liquid flow rate of at least 300 gallons per minute. [40 C.F.R. Part § 64.6I(1)]
  - b. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #39 (A). Records shall be kept onsite and made available to the Department upon request. [40 C.F.R. Part § 64.6(c)(3)]
  - c. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 C.F.R. Part § 64.6I(1)]
40. The Tissue Machine No. 7 Dust System (SN-50) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 C.F.R. § 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision #7 as outlined in 40 C.F.R. §70.6.
  - a. The permittee shall maintain records for SN-50 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 C.F.R. §§ 64.9(a)(2)(i) and 64.9(b)]
  - b. The permittee shall maintain records for SN-50 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 C.F.R. §§ 64.9(a)(2)(ii) and 64.9(b)]



- c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 C.F.R. §§ 64.9(a)(2)(iii) and 64.9(b)]
- d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 C.F.R. §§ 64.9(a)(2)(iii) and 64.9(b)]
- e. The permittee shall maintain records for SN-50 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 C.F.R. §§ 64.9(a)(2)(iii) and 64.9(b)]

SN-79, 80, and 81

#### Specific Conditions

41. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #54 and 55. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN | Description  | Pollutant                 | lb/hr | ton/yr |
|----|--|---------------------------|-------|--------|
| 79 | Tissue Machine No. 8 Burners, Yankee Hood, and Process Emissions | PM <sub>10</sub> (Total)  | 0.7   | 3.0    |
|    |  | PM <sub>2.5</sub> (Total) | 0.7   | 3.0    |
|    |  | Pb                        | 0.01  | 0.01   |
| 80 | Tissue Machine No. 8   | PM <sub>10</sub> (Total)  | 1.4   | 6.2    |
|    |  | PM <sub>2.5</sub> (Total) | 0.8   | 3.2    |
| 81 | Tissue Machine No. 8 Dust System                                 | PM <sub>2.5</sub>         | 1.8   | 7.7    |

42. The permittee shall not exceed the BACT emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #54, 55, and 56. [Reg.19.501 *et seq.*, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

| SN | Description  | Pollutant                     | lb/hr           | ton/yr |
|----|--|-------------------------------|-----------------|--------|
| 79 | Tissue Machine No. 8 Burners and Process emissions (41 MMBtu/hr) | PM                            | 0.7             | 3.0    |
|    |  |                               | 0.0164 lb/MMBtu |        |
|    |  | PM <sub>10</sub> (Filterable) | 0.7             | 3.0    |
|    |  |                               | 0.0164 lb/MMBtu |        |
|    |  | SO <sub>2</sub>               | 0.1             | 0.2    |
|    |  |                               | 0.0007 lb/MMBtu |        |
|    |  | VOC                           | 0.8             | 3.5    |

| SN | Description                         | Pollutant                     | lb/hr                         | ton/yr |
|----|-------------------------------------|-------------------------------|-------------------------------|--------|
|    |                                     |                               | 0.0192 lb/MMBtu               |        |
|    |                                     | NO <sub>x</sub>               | 3.8                           | 16.4   |
|    |                                     |                               | 0.0913 lb/MMBtu               |        |
| 80 | Tissue Machine No. 8                | PM                            | 1.6                           | 6.9    |
|    |                                     |                               | 0.1410 lb/ADTFP*              |        |
|    |                                     | PM <sub>10</sub> (Filterable) | 0.8                           | 3.2    |
|    |                                     |                               | 0.0646 lb/ ADTFP*             |        |
|    |                                     | VOC                           | 13.6                          | 59.6   |
|    |                                     |                               | 1.29 lb/MDT<br>Annual Average |        |
| 81 | Tissue Machine No. 8<br>Dust System | PM/PM <sub>10</sub>           | 1.8                           | 7.7    |
|    |                                     |                               | 0.0035 gr/dscf                |        |

\*Air Dried Tons of Finished Paper

43. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #54 and 55. [Reg.19.501 *et seq.*, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

| SN | Description   | Pollutant | lb/hr                         | ton/yr |
|----|---|-----------|-------------------------------|--------|
| 79 | Tissue Machine No. 8<br>Burners and Process<br>emissions<br>(41 MMBtu/hr) | CO        | 6.15 <sup>a, b</sup>          | 26.94  |
|    |   |           | 0.15 lb/MMBtu <sup>a, b</sup> |        |

a. 3-hr block average excluding SSM

b. In addition to the numerical BACT limits, the facility has proposed to the work practice standards as found in Specific Conditions 46 and 47.

44. The Department finds that a 12 month demonstration period is to be implemented to determine whether the BACT emission limits currently proposed by the facility for TM8 can be achieved. The Department has set an interim BACT limit for TM8 equal to the facility's proposed BACT limit for the 12-month demonstration period. After the 12-month demonstration period, the facility shall accept a final BACT limit equal to or lower than the interim limit. Any safety factor applied to the BACT limit shall be reasonable, and based on a statistical analysis of any stack test results obtained during the demonstration period. If, after the 12-month demonstration period, the facility determines that a higher BACT limit is required, then the facility shall submit a permit modification application within 30 days to modify the BACT limit upwards. The interim and final limits are listed in the following table.

| Pollutant | Interim Limit   | Final Limit (unless modified)   |
|-----------|---|---|
| CO        | 6.15 lb/hr (3-hr block average)<br>0.15 lb/MMBtu (3-hr block average) | 6.15 lb/hr or lower (3-hr block average)<br>0.15 lb/MMBtu or lower (3-hr block average) |

[Reg.19.501 *et seq.*, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

45. The permittee shall report each start-up, shutdown, and malfunction (SSM) event. For each SSM, the report shall contain the information outlined in General Provision 8, the required information from Specific Condition 46, and shall be submitted within the timeframe outlined in General Provision 8. [Reg.19.705; 40 C.F.R. § 52 Subpart E; Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
46. The following work practice standards shall be applied during SSM:
  - a. Follow the start-up and operating instructions provided by the burner manufacturer.
  - b. Make any adjustments to the burner management system recommended by the manufacturer for fuel flow, air/fuel ratio, and combustion air valve setting.
  - c. Verify that all safety sequences are in place with special emphasis on the burner “pre-purge” activities required by burner manufacturer instructions and safety codes prior to opening any fuel valves.
  - d. Verify that both air and fuel line pressures are adequate to maintain normal operations.
  - e. Monitor control parameters of the burner management system to make sure key operating parameters are within design limits.
  - f. Typical startup time for the burners should take no more than 30 minutes before the proper hood temperature is achieved and normal operations can commence with tissue processed through the paper machine. [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]
47. The following preventive maintenance and inspection activities shall be conducted annually to ensure proper operation of the burners during start-up and during normal operation:
  - a. Inspect burner internal parts for wear or oxidation.
  - b. Inspect associated control instruments and devices for function with particular attention to all safety permissive switches.

- c. Perform leak tests on fuel shut-off valves according to any schedule established by the authority having jurisdiction.
  - d. Clean or replace combustion air filters if present.
  - e. Clean gas filters and drain drip legs in fuel train.
  - f. Assess combustion spare parts and restock as recommended by burner manufacturer.
  - g. Inspect Yankee dryer hood system for cleanliness and mechanical integrity. [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]
48. The permittee shall maintain records of the maintenance and inspection activities as required by Specific Condition 47. These records shall be updated by the 15<sup>th</sup> of the month following the month to which the maintenance and/or inspection activity occurred. These records may be used by the Department for enforcement purposes. These records shall be maintained on site and made available to Department personnel upon request. [Reg.19.705; 40 C.F.R. § 52 Subpart E; Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
49. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #54 and 55. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description   | Pollutant       | lb/hr | ton/yr |
|----|---|-----------------|-------|--------|
| 79 | Tissue Machine<br>No. 8<br>Burners, Yankee<br>Hood, and<br>Process<br>Emissions | PM (Filterable) | 0.5   | 1.8    |
|    |   | Arsenic         | 0.01  | 0.01   |
|    |   | Benzene         | 0.01  | 0.01   |
|    |   | Cadmium         | 0.01  | 0.01   |
|    |   | Chromium (III)  | 0.01  | 0.01   |
|    |   | Cobalt          | 0.01  | 0.01   |
|    |   | Formaldehyde    | 0.01  | 0.02   |
|    |   | Hexane          | 0.09  | 0.38   |
|    |   | Manganese       | 0.01  | 0.01   |
|    |   | Mercury         | 0.01  | 0.01   |
|    |   | Naphthalene     | 0.01  | 0.01   |
|    |   | Nickel          | 0.01  | 0.01   |
|    |   | POM             | 0.01  | 0.01   |
|    |   | Toluene         | 0.01  | 0.01   |

| SN | Description             | Pollutant                  | lb/hr | ton/yr |
|----|-------------------------|----------------------------|-------|--------|
| 80 | Tissue Machine<br>No. 8 | Acetone                    | 0.16  | 0.71   |
|    |                         | 1,2,4-Trichlorobenzene     | 0.03  | 0.11   |
|    |                         | Acetaldehyde               | 0.06  | 0.25   |
|    |                         | Benzene                    | 0.01  | 0.02   |
|    |                         | Carbon Disulfide           | 0.01  | 0.05   |
|    |                         | Chlorobenzene              | 0.01  | 0.01   |
|    |                         | Chloroform                 | 0.01  | 0.01   |
|    |                         | Ethyl Benzene              | 0.01  | 0.01   |
|    |                         | Methyl Isobutyl<br>Ketone  | 0.01  | 0.03   |
|    |                         | Methylene Chloride         | 0.02  | 0.11   |
|    |                         | Naphthalene                | 0.01  | 0.03   |
|    |                         | n-Hexane                   | 0.01  | 0.02   |
|    |                         | Phenol                     | 0.1   | 0.43   |
|    |                         | POM                        | 0.01  | 0.03   |
|    |                         | Propionaldehyde            | 0.10  | 0.44   |
|    |                         | Styrene                    | 0.01  | 0.02   |
|    |                         | Tetrachloroethylene        | 0.01  | 0.03   |
|    |                         | Toluene                    | 0.01  | 0.01   |
|    |                         | Trichloroethylene          | 0.01  | 0.01   |
|    |                         | Xylenes (mixed<br>isomers) | 0.01  | 0.01   |

#### Opacity

50. The permittee shall not cause to be discharged to the atmosphere from SN-79 and SN-81 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-79. [Reg.19.503, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]
51. Weekly observations of the opacity from SN-81 shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this

specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request.

- a. The date and time of the observation.
  - b. If visible emissions which appeared to be above the permitted limit were detected.
  - c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the opacity observations. [Reg.19.705 and 40 C.F.R. § 52, Subpart E]
52. The permittee shall not cause to be discharged to the atmosphere from SN-80 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-80 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [Reg.19.503 and Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]
  - a. The date and time of the observation
  - b. If visible emissions were detected
  - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
  - d. The name of the person conducting the observation.
53. The permittee may, in the event of emergency maintenance on SN-81, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall

be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### Fuel Requirements

54. Natural gas shall be the only fuel used for Tissue Machine No. 8 Burners (SN-79). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

#### Production Limits

55. The permittee shall not produce in excess of 253.1 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 8. A conversion factor of 0.95 MDT/ ADTFP is used to account for fiber loss. [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 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 paper production limits, the paper machine VOC annual emissions, and the paper machine VOC BACT limits listed in Specific Conditions #42 and 55. The 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. For VOC annual emissions and the paper machine VOC BACT limit, a twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [Reg.18.1004, Reg.19.705, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### CAM

57. The Tissue Machine No. 8 Dust System (SN-81) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 C.F.R. § 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Post control of particulate emissions from SN-81 is below major source levels.
- a. The permittee shall maintain a scrubber liquid pressure of at least 8 inches of water. [40 C.F.R. Part § 64.6I(1)]
  - b. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #57 (A). Records shall be kept onsite and made available to the Department upon request. [40 C.F.R. Part § 64.6(c)(3)]

- c. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 C.F.R. Part § 64.6I(1)]
58. The Tissue Machine No. 8 Dust System (SN-81) is subject to and shall comply with all applicable provisions of § 19.304 of Regulation 19, 40 C.F.R. § 52 Subpart E, and Part § 64.6 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 C.F.R. §70.6.
- a. The permittee shall maintain records for SN-81 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 C.F.R. §§ 64.9(a)(2)(i) and 64.9(b)]
  - b. The permittee shall maintain records for SN-81 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 C.F.R. §§ 64.9(a)(2)(ii) and 64.9(b)]
  - c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 C.F.R. §§ 64.9(a)(2)(iii) and 64.9(b)]
  - d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 C.F.R. §§ 64.9(a)(2)(iii) and 64.9(b)]
  - e. The permittee shall maintain records for SN-81 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 C.F.R. §§ 64.9(a)(2)(iii) and 64.9(b)]

#### Testing Requirements

59. The permittee shall test SN-79 for NO<sub>x</sub> to verify compliance with the BACT emission limits specified in Specific Condition #42 every five years. Testing for NO<sub>x</sub> shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [Reg.19.702, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]
60. The permittee shall test SN-81 for PM/PM<sub>10</sub> to verify compliance with the BACT emission limit specified in Specific Conditions #42 every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 with inclusion of back half sampling train particulate. The permittee shall test at the minimum scrubber parameters of Specific Condition 57. During the test the permittee



shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [Reg.19.702, Reg.19.901 *et seq.*, and 40 C.F.R. § 52 Subpart E]

61. The permittee shall test SN-79 for CO emissions annually. Testing for CO shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 10. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. This unit shall be operated at 90% or more of rated capacity when the tests are performed. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

### SN-93

#### Specific Conditions

62. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #66. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN | Description                  | Pollutant         | lb/hr | ton/yr |
|----|------------------------------|-------------------|-------|--------|
| 93 | Tissue Repulpers A, B, and C | PM <sub>10</sub>  | 0.3   | 1.2    |
|    |                              | PM <sub>2.5</sub> | 0.3   | 1.2    |
|    |                              | VOC               | 1.0*  | 4.4*   |

\*Limit set equal to Total HAPs.

63. The permittee estimates the emission rates set forth in the following table will not be exceeded. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #66. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant | lb/hr | ton/yr |
|----|-------------|-----------|-------|--------|
|----|-------------|-----------|-------|--------|

| SN | Description                        | Pollutant  | lb/hr | ton/yr |
|----|------------------------------------|------------|-------|--------|
| 93 | Tissue<br>Repulpers A,<br>B, and C | PM         | 0.3   | 1.2    |
|    |                                    | Chloroform | 0.99  | 4.32   |

#### Opacity

64. SN-93 shall have no visible emissions. Compliance shall be demonstrated by Compliance with Specific Condition #65. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]
65. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-93 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]
  - a. The date and time of the observation
  - b. If visible emissions were detected
  - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
  - d. The name of the person conducting the observation.

#### Throughput Limits

66. The permittee shall not process in excess of 270 tons per day of broke, 30-day rolling average, total combined, at all repulpers at SN-93. This limit does not apply to purchased pulp or pulp produced in-house for purposes of recycle. [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
67. The permittee shall maintain records of the amount of broke that is processed in Repulpers A, B and C which demonstrate compliance with the limits listed in Specific Condition #66. 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 twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-45, 111, 112, 113, 141, 142, and 143

Specific Conditions

68. The permittee shall not exceed the totals set forth in the following table for converting operations. Compliance with the VOC emission rates shall be demonstrated by Specific Condition #72. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN                | Description                      | Pollutant | lb/hr | ton/yr |
|-------------------|----------------------------------|-----------|-------|--------|
| 45                | Spectrum Printer                 | VOC       | 1.8   | 4.3    |
| 111<br>112<br>113 | Converting Lines No. 1, 2, and 3 | VOC       | 1.8   | 7.9    |
| 141               | Legacy Converting Lines          | VOC       | 5.6   | 24.6   |
| 142<br>143        | CF1 and CF2 Converting Lines     | VOC       | 1.3   | 4.6    |

69. The permittee shall not exceed the totals set forth in the following table for converting operations. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #72. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN                | Description                      | Pollutant   | lb/hr | ton/yr |
|-------------------|----------------------------------|-------------|-------|--------|
| 45                | Spectrum Printer                 | Total HAPs* | 0.08  | 0.08   |
| 111<br>112<br>113 | Converting Lines No. 1, 2, and 3 | Total HAPs* | 0.48  | 0.90   |
| 141               | Legacy Converting Lines          | Total HAPs* | 1.32  | 2.82   |
| 142<br>143        | CF1 and CF2 Converting Lines     | Total HAPs* | 0.24  | 0.42   |

\*Total HAPs includes all HAPs directly used in the tissue converting process.

70. All HAPs included in the Total HAPs for SN-45, 111 through 113, and 141 through 143 shall have a Threshold Limit Value (TLV)  $\geq 1 \text{ mg/m}^3$  unless it has been demonstrated

that plantwide potential to emit (lb/hr) for the pollutant is less than the product of 0.11 and the TLV (mg/m<sup>3</sup>) listed by the American Conference of Governmental Industrial Hygienists (ACGIH). [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

#### Throughput Limits

71. The permittee shall maintain Safety Data Sheets (SDS) or other records which indicate the VOC/HAP content of all inks, glues and cleaners in use at the Spectrum Printer (SN-45), the Converting Lines No. 1, 2, & 3 (SN-111, 112, & 113), the Legacy Converting Lines (SN-141), and the CF1 and CF2 Converting Lines (SN-142 and SN-143). SDS sheets should be reviewed annually. These records shall be maintained on-site and shall be made available to Department personnel upon request. [Reg.18.1004, Reg.19.705, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
72. The permittee shall maintain monthly records which demonstrate the amount of VOC/HAP emitted from the Spectrum Printer (SN-45), the Converting Lines No. 1, 2, & 3 (SN-111, 112, & 113), the Legacy Converting Lines (SN-141), and the CF1 and CF2 Converting Lines (SN-142 and SN-143). These records shall be maintained in a spreadsheet, database, or other well-organized format. These records shall indicate the amount of each ink, glue, or cleaner used. It shall include the corresponding VOC/HAP content of each material, and the total amount of VOC/HAP emissions from usage. For the purpose of this calculation, 100% of the VOC/HAP content shall be assumed to be emitted to the atmosphere. Each individual month's data and a 12-month rolling total shall be maintained on-site, shall be made available to Department personnel upon request, and shall be submitted in accordance with General Provision #7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

#### NESHAP KK

73. The Spectrum Printer is subject to and shall comply with all applicable requirements of 40 C.F.R. 63 Subpart KK - *National Emission Standards for the Printing and Publishing Industry*. Requirements include, but are not limited to the following. [Reg.19.304 and 40 C.F.R. § 63.820(a)(1)]
74. On and after the applicable compliance date specified in §63.826 of this subpart, the permittee shall apply no more than 400 kg per month, for every month, of organic HAP at the Spectrum Printer (SN-45). [40 C.F.R. § 63.821(b)(2)]
75. The permittee shall maintain records of the total mass and organic HAP content of each material applied at the Spectrum Printer (SN-45) during each month for five years, and upon request, submit them to the Administrator. [40 C.F.R. § 63.829(e)(2)]

76. The permittee shall submit to the Administrator an initial notification as required by §63.9(b). [40 C.F.R. § 63.830(b)(1)]

SN-115ct, 116ct, 117ct, 144

### Specific Conditions

77. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #79. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN    | Description                                      | Pollutant         | lb/hr | ton/yr |
|-------|--|-------------------|-------|--------|
| 115ct | No. 8 TM Vac. Pump Cooling Tower                 | PM <sub>10</sub>  | 0.1   | 0.2    |
|       |  | PM <sub>2.5</sub> | 0.1   | 0.1    |
| 116ct | No. 8 TM Chiller Cooling Tower                   | PM <sub>10</sub>  | 0.1   | 0.2    |
|       |  | PM <sub>2.5</sub> | 0.1   | 0.1    |
| 117ct | Conv. Building HVAC Cooling Tower                | PM <sub>10</sub>  | 0.1   | 0.2    |
|       |  | PM <sub>2.5</sub> | 0.1   | 0.1    |
| 144   | No. 8 Tissue Machine Miscellaneous Cooling Tower | PM <sub>10</sub>  | 0.1   | 0.1    |
|       |  | PM <sub>2.5</sub> | 0.1   | 0.1    |

78. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #79. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN    | Description                                      | Pollutant | lb/hr | ton/yr |
|-------|--|-----------|-------|--------|
| 115ct | No. 8 TM Vac. Pump Cooling Tower                 | PM        | 0.1   | 0.3    |
| 116ct | No. 8 TM Chiller Cooling Tower                   | PM        | 0.1   | 0.3    |
| 117ct | Conv. Building HVAC Cooling Tower                | PM        | 0.1   | 0.3    |
| 144   | No. 8 Tissue Machine Miscellaneous Cooling Tower | PM        | 0.1   | 0.1    |

Dissolved Solids

Georgia-Pacific Crossett LLC

Permit #: 0597-AOP-R23

AFIN: 02-00013

79. The total dissolved solids shall not exceed 750 mg/L for SN-115-ct, 116-ct, 117-ct, SN-144. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. 70.6]
80. The permittee shall demonstrate compliance with the 750 mg/L limit by collecting and analyzing a sample each calendar month and maintaining records. Records shall be updated by the 15<sup>th</sup> day following the end of the month to which the records pertain. These records shall be kept on site and made available to Department personnel upon request. [Reg.19.705 and 40 C.F.R. § 52, Subpart E]

## **Steam Generation**

### **Source Description**

Crossett Paper Operations utilizes three fuel-fired steam generating units and two steam-generating turbines to provide steam and electrical power to the pulp and paper manufacturing processes.

#### **5A Boiler**

The 5A Boiler (SN-18) has a heat input rating of 220 million Btu per hour. The boiler is only permitted to burn natural gas. The 5A Boiler was manufactured in 1953 and has never been modified or reconstructed since it was originally constructed, and is therefore not subject to any of the NSPS regulations that apply to boilers. The 5A Boiler is subject to NESHAP Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT) as an Existing Gas 1 type boiler; as such, work practice standards including an annual tune-up and a one-time energy assessment are required.

#### **6A Boiler**

The 6A Boiler (SN-19) has a heat input rating of 357 million Btu per hour. The boiler is only permitted to burn natural gas. The 6A Boiler was manufactured in 1962 and has never been modified or reconstructed since it was originally constructed, and is therefore not subject to any of the NSPS regulations that apply to boilers. The 6A Boiler is subject to Boiler MACT as an Existing Gas 1 type boiler; as such, work practice standards including an annual tune-up and a one-time energy assessment are required.

#### **9A Boiler**

The 9A Boiler (SN-22) has a heat input rating of 720 million Btu per hour and fires a combination of fuels to generate steam. The source is equipped with a wet venturi scrubber to control PM emissions. The 9A Boiler is capable of firing natural gas, bark and wood, tire derived fuel (TDF), agriculture derived fuel (ADF), refuse derived fuel (RDF), and wastewater treatment sludge.

The 9A Boiler was originally constructed in 1975 and at a later date, reconfigured to include the capability to burn natural gas. The action was previously determined to not be a “modification” under the NSPS regulations. The 9A Boiler is subject to Boiler MACT as a hybrid suspension grate boiler; the unit is subject to emission limits, work practice standards, operating limits, and performance testing.

There are several Insignificant Activities Group B units associated with the boilers.

SN-18

### **Specific Conditions**

81. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #84. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN | Description | Pollutant         | lb/hr | tpy   |
|----|-------------|-------------------|-------|-------|
| 18 | 5A Boiler   | PM <sub>10</sub>  | 2.0   | 8.6   |
|    |             | PM <sub>2.5</sub> | 2.0   | 8.6   |
|    |             | SO <sub>2</sub>   | 0.2   | 0.7   |
|    |             | VOC               | 1.5   | 6.2   |
|    |             | CO                | 21.7  | 94.7  |
|    |             | NO <sub>x</sub>   | 72.1  | 315.6 |
|    |             | Pb                | 0.01  | 0.01  |

82. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #84. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant       | lb/hr | tpy  |
|----|-------------|-----------------|-------|------|
| 18 | 5A Boiler   | PM (Filterable) | 0.5   | 2.2  |
|    |             | Ethane          | 0.80  | 3.50 |
|    |             | Arsenic         | 0.01  | 0.01 |
|    |             | Benzene         | 0.01  | 0.01 |
|    |             | Cadmium         | 0.01  | 0.01 |
|    |             | Chromium (III)  | 0.01  | 0.01 |
|    |             | Cobalt          | 0.01  | 0.01 |
|    |             | Formaldehyde    | 0.02  | 0.09 |
|    |             | Hexane          | 0.47  | 2.03 |
|    |             | Manganese       | 0.01  | 0.01 |
|    |             | Mercury         | 0.01  | 0.01 |
|    |             | Naphthalene     | 0.01  | 0.01 |



| SN | Description | Pollutant | lb/hr | tpy  |
|----|-------------|-----------|-------|------|
|    |             | Nickel    | 0.01  | 0.01 |
|    |             | POM       | 0.01  | 0.01 |
|    |             | Toluene   | 0.01  | 0.01 |

#### Opacity

83. The permittee shall not cause to be discharged to the atmosphere from the 5A Boiler gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### Fuel Requirements

84. Only natural gas may be used as fuel in the 5A Boiler. [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

#### NESHAP DDDDD

85. The 5A (SN-18) and 6A (SN-19) boilers are existing industrial boilers, located at a major source of HAPs and are subject to 40 C.F.R. 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* (Boiler MACT). The 5A and 6A boilers are – “Units designed to burn gas 1 fuels,” as specified in §63.7499(l). The permittee shall comply with all applicable requirements including but not limited to those specified in Specific Condition #91 through 107. [40 C.F.R. §§ 63.7485 and 7490(a)(1)]

#### SN-19

#### Specific Conditions

86. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #89. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN | Description | Pollutant         | lb/hr | tpy  |
|----|-------------|-------------------|-------|------|
| 19 | 6A Boiler   | PM <sub>10</sub>  | 3.2   | 13.9 |
|    |             | PM <sub>2.5</sub> | 3.2   | 13.9 |
|    |             | SO <sub>2</sub>   | 0.3   | 1.1  |

| SN | Description | Pollutant       | lb/hr | tpy   |
|----|-------------|-----------------|-------|-------|
|    |             | VOC             | 2.3   | 10.1  |
|    |             | CO              | 35.1  | 153.7 |
|    |             | NO <sub>x</sub> | 117.0 | 512.1 |
|    |             | Pb              | 0.01  | 0.01  |

87. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #89. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant       | lb/hr | tpy  |
|----|-------------|-----------------|-------|------|
| 19 | 6A Boiler   | PM (Filterable) | 0.8   | 3.5  |
|    |             | Ethane          | 1.30  | 5.67 |
|    |             | Arsenic         | 0.01  | 0.01 |
|    |             | Benzene         | 0.01  | 0.01 |
|    |             | Cadmium         | 0.01  | 0.01 |
|    |             | Chromium (III)  | 0.01  | 0.01 |
|    |             | Cobalt          | 0.01  | 0.01 |
|    |             | Formaldehyde    | 0.04  | 0.14 |
|    |             | Hexane          | 0.76  | 3.3  |
|    |             | Manganese       | 0.01  | 0.01 |
|    |             | Mercury         | 0.01  | 0.01 |
|    |             | Naphthalene     | 0.01  | 0.01 |
|    |             | Nickel          | 0.01  | 0.01 |
|    |             | POM             | 0.01  | 0.01 |
|    |             | Toluene         | 0.01  | 0.01 |

#### Opacity

88. The permittee shall not cause to be discharged to the atmosphere from the 6A Boiler gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be

the use of natural gas only. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### Fuel Requirements

89. Natural gas may only be used as fuel in the 6A Boiler. [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

#### NESHAP DDDDD

90. The 5A (SN-18) and 6A (SN-19) boilers are existing industrial boilers, located at a major source of HAPs and are subject to 40 C.F.R. 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* (Boiler MACT). The 5A and 6A boilers are – “Units designed to burn gas 1 fuels,” as specified in §63.7499(l). The permittee shall comply with all applicable requirements including but not limited to those specified in Specific Condition #91 through 107. [40 C.F.R. §§ 63.7485 and 7490(a)(1)]
91. The permittee must comply with this subpart no later than January 31, 2016, except as provided in § 63.6(i). [40 C.F.R. § 63.7495(b)]
92. The permittee must meet the notification requirements in §63.7545 according to the schedule in § 63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart. If you have switched fuels or made a physical change to the boiler that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change. [40 C.F.R. § 63.7495(d) and (h)]
93. The permittee must meet the requirements in paragraphs (a)(1) through (3) of § 63.7500, except as provided in paragraphs (b), through (e) of this section. These requirements must be met at all times the affected unit is operating, except as provided in paragraph (f) of this section.
- a. The permittee must meet the work practice standard in Table 3 to this subpart, as shown below.

| <b>Table 3</b>   |   |
|--|---|
| <b>If your unit is . . .</b>   | <b>You must meet the following . . .</b>  |
| A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input | Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540. |

| <b>Table 3</b>   |  |
|--|--|
| <b>If your unit is . . .</b>   | <b>You must meet the following . . .</b>   |
| capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater |  |
| A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater  | Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans. |

- b. At all times, the permittee must operate and maintain any affected source (as defined in §63.7490), 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 that 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. [40 C.F.R. § 63.7500(a)]
94. You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These emission and operating limits apply to you at all times the affected unit is operating except for the periods noted in § 63.7500(f). [40 C.F.R. § 63.7505(a)]
95. The permittee must complete an initial tune-up by following the procedures described in § 63.7540(a)(10)(i) through (vi) no later than the compliance date specified in §63.7495, except as specified in paragraph (j) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in §63.7495. [40 C.F.R. § 63.7510(e)]
96. The permittee must conduct an annual or 5-year performance tune-up according to § 63.7540(a)(10) or (12). Each annual tune-up must be no more than 13 months after the previous tune-up. Each 5-year tune-up specified in § 63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. [40 C.F.R. § 63.7515(d)]

97. The permittee must conduct an annual or 5 year tune-up for SN-18, SN-19, and SN-22 to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) and (a)(12) of §63.7540. You must conduct the tune-up while burning the type of fuel that provided the majority of the heat input to the boilers over the 12 months prior to the tune-up.
- a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
  - b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
  - c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;
  - d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO<sub>x</sub> requirement to which the unit is subject;
  - e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and
  - f. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,
    - i. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
    - ii. A description of any corrective actions taken as a part of the tune-up; and

- iii. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. [40 C.F.R. § 63.7540(a)(10) and (12)]
- 98. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 C.F.R. § 63.7540(a)(13)]
- 99. You must submit to the Administrator all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified. [40 C.F.R. § 63.7545(a)]
- 100. If you are required to conduct an initial compliance demonstration as specified in §63.7530, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of this section, as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8) of this section and must be submitted within 60 days of the compliance date specified at § 63.7495(b).
  - a. A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under § 241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of § 241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.
  - b. Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits, and including:
    - i. Identification of whether you are complying with the PM emission limit or the alternative TSM emission limit.

- ii. Identification of whether you are complying with the output-based emission limits or the heat input-based (i.e., lb/MMBtu or ppm) emission limits.
  - iii. Identification of whether you are complying the arithmetic mean of all valid hours of data from the previous 30 operating days or of the previous 720 hours. This identification shall be specified separately for each operating parameter.
- c. A summary of the maximum CO emission levels recorded during the performance test to show that you have met any applicable emission standard in Tables 1, 2, or 11 through 13 to this subpart, if you are not using a CO CEMS to demonstrate compliance.
- d. Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing, a CEMS, or fuel analysis.
- e. Identification of whether you plan to demonstrate compliance by emissions averaging and identification of whether you plan to demonstrate compliance by using efficiency credits through energy conservation:
  - i. If you plan to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on January 31, 2013.
- f. A signed certification that you have met all applicable emission limits and work practice standards.
- g. If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.
- h. In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
  - i. “This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 C.F.R. part 63 subpart DDDDD at this site according to the procedures in § 63.7540(a)(10)(i) through (vi).”
  - ii. “This facility has had an energy assessment performed according to § 63.7530(e).”

- iii. Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: “No secondary materials that are solid waste were combusted in any affected unit.” [40 C.F.R. § 63.7545(e)]
101. If you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in § 63.7575, you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in § 63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of this section.
- a. Company name and address.
  - b. Identification of the affected unit.
  - c. Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.
  - d. Type of alternative fuel that you intend to use.
  - e. Dates when the alternative fuel use is expected to begin and end. [40 C.F.R. § 63.7545(f)]
102. If you have switched fuels or made a physical change to SN-18, SN-19, or SN-22 and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:
- a. The name of the owner or operator of the affected source, as defined in §63.7490, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice.
  - b. The currently applicable subcategory under this subpart.
  - c. The date upon which the fuel switch or physical change occurred. [40 C.F.R. § 63.7545(h)]
103. You must submit each report in Table 9 to this subpart that applies to you. [40 C.F.R. § 63.7550(a)]



| <b>Table 9</b>              |   |  |
|-----------------------------|---|--|
| <b>You must submit a(n)</b> | <b>The report must contain . . .</b>  | <b>You must submit the report . . .</b>  |
| Compliance report           | a. Information required in §63.7550(c)(1) through (5); and  | Semiannually, annually, biennially, or every 5 years according to the requirements in §63.7550(b). |
|                             | b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and |  |
|                             | c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must contain the information in §63.7550(d); and  |  |
|                             | d. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), or otherwise not operating, the report must contain the information in §63.7550(e)   |  |

104. Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report, according to paragraph (h) of § 63.7550, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. The permittee may submit only an annual,

biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

- a. The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in §63.7495.
  - b. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.
  - c. Each subsequent annual, biennial, or 5-year compliance report must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.
  - d. Each subsequent annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31. [40 C.F.R. § 63.7550(b)]
105. A compliance report must contain the information in paragraphs (c)(5)(i) through (iii), (xiv) and (xvii) of § 63.7550. Which includes:
  - a. Company and Facility name and address.
  - b. Process unit information, emissions limitations, and operating parameter limitations.
  - c. Date of report and beginning and ending dates of the reporting period.
  - d. Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.
  - e. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. [40 C.F.R. § 63.7550(c)]
106. The permittee must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of § 63.7550.
  - a. You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site

(<http://www.epa.gov/ttn/chief/cedri/index.html>), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in § 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 C.F.R. § 63.7550(h)]

107. Any records required by this subpart must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

You must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records off site for the remaining 3 years. [40 C.F.R. § 63.7560]

#### SN-22

#### Specific Conditions

108. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #172, 173, 174. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN | Description | Pollutant         | lb/hr | tpy    |
|----|-------------|-------------------|-------|--------|
| 22 | 9A Boiler   | PM <sub>10</sub>  | 77.4  | 339.1  |
|    |             | PM <sub>2.5</sub> | 77.4  | 339.1  |
|    |             | SO <sub>2</sub>   | 145.3 | 262.2  |
|    |             | VOC               | 11.3  | 49.4   |
|    |             | CO                | 366.2 | 1604.0 |
|    |             | NO <sub>x</sub>   | 196.0 | 858.5  |
|    |             | Pb                | 0.03  | 0.13   |

109. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #172, 173, 174. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description | Pollutant                           | lb/hr | tpy   |
|----|-------------|-------------------------------------|-------|-------|
| 22 | 9A Boiler   | PM                                  | 77.4  | 339.1 |
|    |             | Acetone                             | 0.13  | 0.54  |
|    |             | Ethane                              | 2.62  | 11.44 |
|    |             | Hydrogen Fluoride                   | 0.01  | 0.03  |
|    |             | Trichlorofluoromethane              | 0.01  | 0.04  |
|    |             | 1,1,1-Trichloroethane               | 0.03  | 0.1   |
|    |             | 1,2,4-Trichlorobenzene              | 0.01  | 0.01  |
|    |             | 1,2-Dichloroethane                  | 0.02  | 0.08  |
|    |             | 1,2-Dichloropropane                 | 0.01  | 0.05  |
|    |             | 1,4-Dichlorobenzene                 | 0.16  | 0.7   |
|    |             | 2,3,7,8-Tetrachlorodibenzo-p-dioxin | 0.01  | 0.01  |
|    |             | 2,4,6-Trichlorophenol               | 0.01  | 0.01  |
|    |             | 2,4-Dinitrophenol                   | 0.01  | 0.01  |
|    |             | 2,4-Dinitrotoluene                  | 0.01  | 0.01  |
|    |             | 4-Nitrophenol                       | 0.01  | 0.01  |
|    |             | 4,6-Dinitro-o-cresol                | 0.01  | 0.01  |
|    |             | Acetaldehyde                        | 0.1   | 0.4   |
|    |             | Acetophenone                        | 0.01  | 0.01  |
|    |             | Acrolein                            | 0.08  | 0.32  |
|    |             | Antimony                            | 0.01  | 0.01  |
|    |             | Arsenic                             | 0.01  | 0.03  |
|    |             | Benzene                             | 0.14  | 0.59  |
|    |             | Beryllium                           | 0.01  | 0.01  |
|    |             | Bis(2-Ethylhexyl)phthalate          | 0.01  | 0.01  |
|    |             | Bromomethane                        | 0.01  | 0.01  |

| SN | Description | Pollutant              | lb/hr | tpy  |
|----|-------------|------------------------|-------|------|
|    |             | Cadmium                | 0.01  | 0.01 |
|    |             | Carbon Disulfide       | 0.08  | 0.32 |
|    |             | Carbon Tetrachloride   | 0.01  | 0.03 |
|    |             | Chlorobenzene          | 0.01  | 0.05 |
|    |             | Chloroform             | 0.01  | 0.01 |
|    |             | Chloromethane          | 0.02  | 0.07 |
|    |             | Chromium (III)         | 0.01  | 0.03 |
|    |             | Chromium (VI)          | 0.01  | 0.01 |
|    |             | Cobalt                 | 0.01  | 0.01 |
|    |             | Cumene                 | 0.02  | 0.05 |
|    |             | Dibutyl phthalate      | 0.02  | 0.09 |
|    |             | Ethyl Benzene          | 0.02  | 0.08 |
|    |             | Formaldehyde           | 0.24  | 1.04 |
|    |             | Hexachlorobenzene      | 0.01  | 0.01 |
|    |             | Hexane                 | 1.52  | 6.64 |
|    |             | Hydrochloric Acid      | 0.07  | 0.28 |
|    |             | Hydrogen Cyanide       | 0.02  | 0.06 |
|    |             | Manganese              | 0.08  | 0.32 |
|    |             | Mercury                | 0.01  | 0.01 |
|    |             | Methanol               | 0.28  | 1.21 |
|    |             | Methyl Isobutyl Ketone | 0.26  | 1.12 |
|    |             | Methylene Chloride     | 0.02  | 0.08 |
|    |             | Naphthalene            | 0.01  | 0.03 |
|    |             | Nickel                 | 0.01  | 0.03 |
|    |             | Pentachlorophenol      | 0.01  | 0.01 |
|    |             | Phenol                 | 0.01  | 0.04 |
|    |             | POM                    | 0.07  | 0.27 |

| SN | Description | Pollutant               | lb/hr | tpy  |
|----|-------------|-------------------------|-------|------|
|    |             | Phosphorus              | 0.06  | 0.25 |
|    |             | Propionaldehyde         | 0.02  | 0.06 |
|    |             | Selenium                | 0.01  | 0.01 |
|    |             | Styrene                 | 0.01  | 0.04 |
|    |             | Tetrachloroethylene     | 0.02  | 0.07 |
|    |             | Toluene                 | 0.01  | 0.02 |
|    |             | Trichloroethylene       | 0.02  | 0.05 |
|    |             | Vinyl Chloride          | 0.02  | 0.05 |
|    |             | Xylenes (mixed isomers) | 0.01  | 0.02 |

#### Opacity

110. For all fuel scenarios except natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 9A Boiler, gases which exhibit opacity greater than 20%. Emissions not exceeding 60% opacity will be allowed for six (6) minutes in any consecutive 60-minute period and no more three (3) times during any 24-hour period. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]
111. When operating using natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 9A Boiler gases which exhibit opacity greater than 5%. Compliance with this limit shall be use of natural gas only. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
112. For all fuel scenarios except natural gas only, the permittee shall conduct daily observations of the opacity from SN-22. Observations shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.
  - a. The date and time of the observation.
  - b. If visible emissions which appeared to be above the permitted limit were detected.

- c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
  - d. The name of the person conducting the opacity observations. [Reg.19.705 and 40 C.F.R. § 52, Subpart E]
113. During periods of combination fuel use, SN-22, as a wood fired boiler, shall meet all visible emissions of this chapter except that visible emissions may exceed the permitted opacity for up to 45 minutes once in any consecutive 8 hour period, three times in any consecutive 24 hour period for soot blowing, grate cleaning, ash raking, and refiring necessary for proper operation of these units. This practice is to be scheduled for the same specific time each day and shall be recorded. The Department shall be notified in advance and in writing of the schedule or any changes. The process of soot blowing, grate cleaning, ash raking, and refiring or any part thereof is considered one activity and the time limit on this activity is 45 minutes. [Reg.18.501(A)(4) and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
114. During periods of combination fuel use, the permittee may, in the event of maintenance on the 9A Boiler (SN-22) scrubber system, continue to operate the boiler without the scrubber for a period of time not to exceed 24 hours. During these events, natural gas will replace all other fuels in the boiler. Woodwaste or any other permitted fuel, with the exception of natural gas, fed to the boiler will be stopped at least one hour before the scrubber is taken offline. If the event lasts longer than 6 hours, a Method 9 opacity reading is required as soon as possible during daylight hours. Scrubber liquid flow and differential pressure may be excluded from the 30-day rolling average required in Table 8 to 40 C.F.R. 63 Subpart DDDDD. A log of these maintenance events will be kept which includes date, starting and ending times of event, reason for maintenance, and results of any opacity checks. The permittee shall notify the Department of the event once the scrubber is operational. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### NESHAP DDDDD

115. The 9A (SN-22) boiler is an existing industrial boiler, located at a major source of HAPs and is subject to 40 C.F.R. 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* (Boiler MACT). The 9A boiler is a – “Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid,” as specified in §63.7499(h), and is capable of operating on natural gas only. The permittee shall comply with all applicable requirements including but not limited to those specified in Specific Condition #117 through 166. Alternatively, if a fuel switch results in the applicability of the “Units designed to burn gas 1 fuels” subcategory, notification must be provided as

specified in Specific Condition #154 and the permittee shall comply with all applicable requirements including but not limited to those specified in Specific Condition #92 through 107. [40 C.F.R. §§ 63.7485 and 7490(a)(1)]

116. The permittee must comply with this subpart no later than January 31, 2016, except as provided in § 63.6(i). [40 C.F.R. § 63.7495(b)]
117. The permittee must meet the notification requirements in § 63.7545 according to the schedule in § 63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart. If you have switched fuels or made a physical change to the boiler that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change. [40 C.F.R. § 63.7495 (d) and (h)]
118. The permittee must meet the requirements in paragraphs (a)(1) through (3) of § 63.7500, except as provided in paragraphs (b), through (e) of this section. You must meet these requirements at all times the affected unit is operating, except as provided in paragraph (f) of this section.
  - a. The permittee must meet each emission limit and work practice standard in Tables 1 through 3, to this subpart that applies to the 9A boiler.

| <b>Table 2</b>   |   |
|--|---|
| <b>For the following pollutants . . .</b>  | <b>The emissions must not exceed the following emission limits, except during startup and shutdown . . .</b>  |
| a. HCl   | 2.2E-02 lb per MMBtu of heat input  |
| b. Mercury   | 5.7E-06 lb per MMBtu of heat input  |
| a. CO (or CEMS)  | 3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)  |
| b. Filterable PM (or TSM)  | 4.4E-01 lb per MMBtu of heat input; or (4.5E-04 lb per MMBtu of heat input)   |
| <b>Table 3</b>   |   |
| <b>Your unit is . . .</b>  | <b>You must meet the following . . .</b>  |
| A new or existing boiler or process heater without a continuous oxygen trim system and with heat input | Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other |



|  |  |
|--|--|
| capacity of 10 million Btu per hour or greater | subcategories will conduct this tune-up as a work practice for dioxins/furans. |
|--|--|

- b. The permittee must meet each operating limit in Table 4 to this subpart that applies to the 9A boiler. If you use a control device or combination of control devices not covered in Table 4 to this subpart, or you wish to establish and monitor an alternative operating limit or an alternative monitoring parameter, you must apply to the EPA Administrator for approval of alternative monitoring under § 63.8(f).

| <b>Table 4</b>  |  |
|---|--|
| <b>When complying with a Table 2 numerical emission limit using . . .</b> | <b>You must meet these operating limits . . .</b>  |
| Wet PM scrubber control on a boiler or process heater not using a PM CPMS | Maintain the 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the performance test demonstrating compliance with the PM emission limitation according to §63.7530(b) and Table 7 to this subpart.  |
| Performance testing   | For boilers and process heaters that demonstrate compliance with a performance test, maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.   |
| Oxygen analyzer system  | For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O <sub>2</sub> analyzer system as specified in §63.7525(a), maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the CO performance test, as specified in Table 8. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.7525(a). |

- c. At all times, the permittee must operate and maintain any affected source (as defined in § 63.7490), 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 that 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. [40 C.F.R. § 63.7500(a)]

119. Standards in § 63.7500 apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with items 5 and 6 of Table 3 to this subpart. [40 C.F.R. § 63.7500(f)]
120. You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These emission and operating limits apply to you at all times the affected unit is operating except for the periods noted in § 63.7500(f). [40 C.F.R. § 63.7505(a)]
121. You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to § 63.7530(c) is less than the applicable emission limit. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, you must demonstrate compliance for HCl, mercury, or TSM using performance stack testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart. [40 C.F.R. § 63.7505(c)]
122. If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of § 63.7505 for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).
  - a. For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses design, data collection, and the quality assurance and quality control elements outlined in § 63.8(d) and the elements described in paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of § 63.7525. Using the process described in § 63.8(f)(4), you may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in this paragraph and, if approved, include the alternatives in your site-specific monitoring plan.

- i. Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);
    - ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
    - iii. Performance evaluation procedures and acceptance criteria (e.g., calibrations, accuracy audits, analytical drift).
  - b. In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.
    - i. Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);
    - ii. Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and
    - iii. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c) (as applicable in Table 10 to this subpart), (e)(1), and (e)(2)(i).
  - c. You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.
  - d. You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan. [40 C.F.R. § 63.7505(d)]
123. For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 or 11 through 13 of this subpart through performance (stack) testing, your initial compliance requirements include all the following:
- a. Conduct performance tests according to § 63.7520 and Table 5 to this subpart.
  - b. Establish operating limits according to § 63.7530 and Table 7 to this subpart.
  - c. Conduct CMS performance evaluations according to § 63.7525. [40 C.F.R. § 63.7510(a)]
124. You must conduct all applicable performance tests according to § 63.7520 on an annual basis, except as specified in paragraphs (b) through (e), (g), and (h) of § 63.7515. Annual

performance tests must be completed no more than 13 months after the previous performance test, except as specified in paragraphs (b) through (e), (g), and (h) of this section. [40 C.F.R. § 63.7515(a)]

125. If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 13 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or process heater or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under § 63.7522, you must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM. [40 C.F.R. § 63.7515(b)]
126. If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through 13 to this subpart) for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through 13 to this subpart). [40 C.F.R. § 63.7515(c)]
127. The permittee must conduct an annual, performance tune-up according to § 63.7540(a)(10). Each annual tune-up specified in § 63.7540(a)(10) must be no more than 13 months after the previous tune-up. [40 C.F.R. § 63.7515(d)]
128. You must report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to §63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests must include all applicable information required in § 63.7550. [40 C.F.R. § 63.7515(f)]
129. The permittee must conduct all performance tests according to § 63.7(c), (d), (f), and (h), and must develop a site-specific stack test plan according to the requirements in § 63.7(c). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on the representative performance of each boiler or process heater for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. [40 C.F.R. § 63.7520(a)]

130. You must conduct each performance test according to the requirements in Table 5 to this subpart. [40 C.F.R. § 63.7520(b)]

| <b>Table 5</b>   |  |   |
|--|--|---|
| <b>To conduct a performance test for the following pollutant . . .</b> | <b>You must. . .</b>   | <b>Using, as appropriate . . .</b>  |
| Filterable PM  | a. Select sampling ports location and the number of traverse points  | Method 1 at 40 C.F.R. part 60, appendix A-1 of this chapter.  |
|  | b. Determine velocity and volumetric flow-rate of the stack gas      | Method 2, 2F, or 2G at 40 C.F.R. part 60, appendix A-1 or A-2 to part 60 of this chapter.                                       |
|  | c. Determine oxygen or carbon dioxide concentration of the stack gas | Method 3A or 3B at 40 C.F.R. part 60, appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>a</sup>        |
|  | d. Measure the moisture content of the stack gas                     | Method 4 at 40 C.F.R. part 60, appendix A-3 of this chapter.  |
|  | e. Measure the PM emission concentration                             | Method 5 or 17 (positive pressure fabric filters must use Method 5D) at 40 C.F.R. part 60, appendix A-3 or A-6 of this chapter. |
|  | f. Convert emissions concentration to lb per MMBtu emission rates    | Method 19 F-factor methodology at 40 C.F.R. part 60, appendix A-7 of this chapter.  |
| Hydrogen chloride  | a. Select sampling ports location and the number of traverse points  | Method 1 at 40 C.F.R. part 60, appendix A-1 of this chapter.  |
|  | b. Determine velocity and volumetric flow-rate of the stack gas      | Method 2, 2F, or 2G at 40 C.F.R. part 60, appendix A-2 of this chapter.   |
|  | c. Determine oxygen or carbon dioxide concentration of the           | Method 3A or 3B at 40 C.F.R. part 60, appendix A-2 of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>a</sup>                   |

| <b>Table 5</b>   |  |  |
|--|--|--|
| <b>To conduct a performance test for the following pollutant . . .</b> | <b>You must. . .</b>   | <b>Using, as appropriate . . .</b>   |
|  | stack gas  |  |
|  | d. Measure the moisture content of the stack gas                     | Method 4 at 40 C.F.R. part 60, appendix A-3 of this chapter.   |
|  | e. Measure the hydrogen chloride emission concentration              | Method 26 or 26A (M26 or M26A) at 40 C.F.R. part 60, appendix A-8 of this chapter.   |
|  | f. Convert emissions concentration to lb per MMBtu emission rates    | Method 19 F-factor methodology at 40 C.F.R. part 60, appendix A-7 of this chapter.   |
| Mercury  | a. Select sampling ports location and the number of traverse points  | Method 1 at 40 C.F.R. part 60, appendix A-1 of this chapter.   |
|  | b. Determine velocity and volumetric flow-rate of the stack gas      | Method 2, 2F, or 2G at 40 C.F.R. part 60, appendix A-1 or A-2 of this chapter.   |
|  | c. Determine oxygen or carbon dioxide concentration of the stack gas | Method 3A or 3B at 40 C.F.R. part 60, appendix A-1 of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>a</sup>  |
|  | d. Measure the moisture content of the stack gas                     | Method 4 at 40 C.F.R. part 60, appendix A-3 of this chapter.   |
|  | e. Measure the mercury emission concentration                        | Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 C.F.R. part 60, appendix A-8 of this chapter or Method 101A at 40 C.F.R. part 61, appendix B of this chapter, or ASTM Method D6784. <sup>a</sup> |
|  | f. Convert emissions concentration to lb per MMBtu emission rates    | Method 19 F-factor methodology at 40 C.F.R. part 60, appendix A-7 of this chapter.   |
| CO   | a. Select the sampling   | Method 1 at 40 C.F.R. part 60, appendix  |

| <b>Table 5</b>   |  |   |
|--|--|---|
| <b>To conduct a performance test for the following pollutant . . .</b> | <b>You must. . .</b>                               | <b>Using, as appropriate . . .</b>  |
|  | ports location and the number of traverse points   | A-1 of this chapter.  |
|  | b. Determine oxygen concentration of the stack gas | Method 3A or 3B at 40 C.F.R. part 60, appendix A-3 of this chapter, or ASTM D6522-00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981. <sup>a</sup>         |
|  | c. Measure the moisture content of the stack gas   | Method 4 at 40 C.F.R. part 60, appendix A-3 of this chapter.  |
|  | d. Measure the CO emission concentration           | Method 10 at 40 C.F.R. part 60, appendix A-4 of this chapter. Use a measurement span value of 2 times the concentration of the applicable emission limit. |

131. You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if you are opting to comply with the TSM alternative standard and you must demonstrate initial compliance and establish your operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart. [40 C.F.R. § 63.7520(c)]

| <b>Table 7</b>  |   |   |  |   |
|---|---|---|--|---|
| <b>If you have an applicable emission limit for . . .</b> | <b>And your operating limits are based on . . .</b> | <b>You must . . .</b>   | <b>Using . . .</b>   | <b>According to the following requirements</b>  |
| 1. PM, TSM, or mercury                                    | a. Wet scrubber operating parameters                | i. Establish a site-specific minimum scrubber pressure drop and | (1) Data from the scrubber pressure drop and liquid flow rate monitors | (a) You must collect scrubber pressure drop and liquid flow rate data every 15 minutes during |

| <b>Table 7</b>  |   |  |   |  |
|---|---|--|---|--|
| <b>If you have an applicable emission limit for . . .</b> | <b>And your operating limits are based on . . .</b>   | <b>You must . . .</b>  | <b>Using . . .</b>  | <b>According to the following requirements</b>   |
|   |   | minimum flow rate operating limit according to §63.7530(b)   | and the PM, TSM, or mercury performance test  | the entire period of the performance tests.<br>(b) Determine the lowest hourly average scrubber pressure drop and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.  |
|   | b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers) | i. Establish a site-specific minimum total secondary electric power input according to §63.7530(b) | (1) Data from the voltage and secondary amperage monitors during the PM or mercury performance test | (a) You must collect secondary voltage and secondary amperage for each ESP cell and calculate total secondary electric power input data every 15 minutes during the entire period of the performance tests.<br>(b) Determine the average total secondary electric power input by computing the hourly averages using all of the 15-minute readings taken during each performance test. |
|   | c. Opacity  | i. Establish a site-specific maximum opacity level   | (1) Data from the opacity monitoring system during the PM performance test                          | (a) You must collect opacity readings every 15 minutes during the entire period of the performance tests.<br>(b) Determine the average hourly opacity reading for each performance test run by   |



| <b>Table 7</b>  |   |  |   |  |
|---|---|--|---|--|
| <b>If you have an applicable emission limit for . . .</b>                     | <b>And your operating limits are based on . . .</b> | <b>You must . . .</b>  | <b>Using . . .</b>  | <b>According to the following requirements</b>   |
|   |   |  |   | computing the hourly averages using all of the 15-minute readings taken during each performance test run.<br>(c) Determine the highest hourly average opacity reading measured during the test run demonstrating compliance with the PM (or TSM) emission limitation.  |
| 4. Carbon monoxide for which compliance is demonstrated by a performance test | a. Oxygen   | i. Establish a unit-specific limit for minimum oxygen level according to §63.7530(b) | (1) Data from the oxygen analyzer system specified in §63.7525(a)           | (a) You must collect oxygen data every 15 minutes during the entire period of the performance tests.<br>(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.<br>(c) Determine the lowest hourly average established during the performance test as your minimum operating limit. |
| 5. Any pollutant for which compliance is demonstrated by a performance        | a. Boiler or process heater operating load          | i. Establish a unit specific limit for maximum operating load according to           | (1) Data from the operating load monitors or from steam generation monitors | (a) You must collect operating load or steam generation data every 15 minutes during the entire period of the  |

| <b>Table 7</b>  |   |                       |                    |  |
|---|---|-----------------------|--------------------|--|
| <b>If you have an applicable emission limit for . . .</b> | <b>And your operating limits are based on . . .</b> | <b>You must . . .</b> | <b>Using . . .</b> | <b>According to the following requirements</b>   |
| test  |   | §63.7520(c)           |                    | performance test.<br>(b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.<br>(c) Determine the highest hourly average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit. |

132. The permittee must conduct a minimum of three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1 and 2 or 11 through 13 to this subpart. [40 C.F.R. § 63.7520(d)]
133. To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at 40 C.F.R. part 60, appendix A-7 of this chapter to convert the measured particulate matter (PM) concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates. [40 C.F.R. § 63.7520(e)]
134. Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level. [40 C.F.R. § 63.7520(f)]

135. The permittee must install, operate, and maintain an oxygen analyzer system, as defined in §63.7575. [40 C.F.R. § 63.7525(a)]
136. If you have an operating limit that requires the use of a CMS other than a PM CPMS or COMS, you must install, operate, and maintain each CMS according to the procedures in paragraphs (d)(1) through (5) of § 63.7525 by the compliance date specified in § 63.7495.
  - a. The CPMS must complete a minimum of one cycle of operation every 15-minutes. You must have a minimum of four successive cycles of operation, one representing each of the four 15-minute periods in an hour, to have a valid hour of data.
  - b. You must operate the monitoring system as specified in § 63.7535(b), and comply with the data calculation requirements specified in § 63.7535(c).
  - c. Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Other situations that constitute a monitoring deviation are specified in § 63.7535(d).
  - d. You must determine the 30-day rolling average of all recorded readings, except as provided in § 63.7535(c).
  - e. You must record the results of each inspection, calibration, and validation check. [40 C.F.R. § 63.7525(d)]
137. If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (d) and (e)(1) through (4) of § 63.7525.
  - a. You must install the flow sensor and other necessary equipment in a position that provides a representative flow.
  - b. You must use a flow sensor with a measurement sensitivity of no greater than 2 percent of the design flow rate.
  - c. You must minimize, consistent with good engineering practices, the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
  - d. You must conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually. [40 C.F.R. § 63.7525(e)]

138. If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (d) and (f)(1) through (6) of this section.
- a. Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (e.g., PM scrubber pressure drop).
  - b. Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion consistent with good engineering practices.
  - c. Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.
  - d. Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (e.g., check for pressure tap pluggage daily).
  - e. Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.
  - f. If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in you monitoring plan. Alternatively, install and verify the operation of a new pressure sensor. [40 C.F.R. § 63.7525(f)]
139. You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to § 63.7520, paragraphs (b) and (c) of § 63.7530, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by § 63.7510(a)(2). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to § 63.7525. [40 C.F.R. § 63.7530(a)]
140. If you demonstrate compliance through performance stack testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in § 63.7520, Table 7 to this subpart, and paragraph (b)(4) of § 63.7530, as applicable. [40 C.F.R. § 63.7530(b)]
141. You must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to Table 3 to this subpart, and that the assessment is an accurate depiction of your facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended. [40 C.F.R. § 63.7530(e)]

142. If you own or operate a unit subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, you must meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, you must only follow the work practice standards according to items 5 and 6 of Table 3 of this subpart. [40 C.F.R. § 63.7530(h)]
143. You must monitor and collect data according to § 63.7535 and the site-specific monitoring plan required by § 63.7505(d). [40 C.F.R. § 63.7535(a)]
144. You must operate the monitoring system and collect data at all required intervals at all times that each boiler or process heater is operating and compliance is required, except for periods of monitoring system malfunctions or out of control periods (see § 63.8(c)(7) of this part), and required monitoring system quality assurance or control activities, including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable. [40 C.F.R. § 63.7535(b)]
145. You may not use data recorded during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. You must record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. You must use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system. [40 C.F.R. § 63.7535(c)]
146. Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods of startup and shutdown, when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. You must calculate monitoring results using all other monitoring data collected while the process is operating. You must report all periods when the monitoring system is out of control in your semi-annual report. [40 C.F.R. § 63.7535(d)]

147. The permittee must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) of § 63.7540.

| <b>Table 8</b>  |   |
|---|---|
| <b>If you must meet the following operating limits or work practice standards . . .</b> | <b>You must demonstrate continuous compliance by . . .</b>  |
| Wet Scrubber Pressure Drop and Liquid Flow-rate   | a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.7525 and 63.7535; and  |
|   | b. Reducing the data to 30-day rolling averages; and  |
|   | c. Maintaining the 30-day rolling average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to §63.7530(b). |

- a. Following the date on which the initial compliance demonstration is completed or is required to be completed under §§ 63.7 and 63.7510, whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests.
- b. As specified in § 63.7555(d), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:
  - i. Equal to or lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.
  - ii. Equal to or lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.
- c. If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of

fuels, you must recalculate the maximum chlorine input using Equation 7 of § 63.7530. If the results of recalculating the maximum chlorine input using Equation 7 of § 63.7530 are greater than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(b). In recalculating the maximum chlorine input and establishing the new operating limits, you are not required to conduct fuel analyses for and include the fuels described in § 63.7510(a)(2)(i) through (iii).

- d. If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 8 of § 63.7530. If the results of recalculating the maximum mercury input using Equation 8 of § 63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(b). You are not required to conduct fuel analyses for the fuels described in § 63.7510(a)(2)(i) through (iii). You may exclude the fuels described in § 63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.
- e. If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in § 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.
  - i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

- ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
  - iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;
  - iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOX requirement to which the unit is subject;
  - v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and
  - vi. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,
    - 1. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
    - 2. A description of any corrective actions taken as a part of the tune-up; and
    - 3. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.
- f. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 C.F.R. § 63.7540(a)]
148. You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 to this subpart that apply to you. These instances are deviations from the emission limits or operating limits, respectively, in this subpart.



These deviations must be reported according to the requirements in §63.7550. [40 C.F.R. § 63.7540(b)]

149. For startup and shutdown, you must meet the work practice standards according to items 5 and 6 of Table 3 of this subpart. [40 C.F.R. § 63.7540(d)]
150. You must submit to the Administrator all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified. [40 C.F.R. § 63.7545(a)]
151. As specified in § 63.9(b)(2), you must submit an Initial Notification not later than 120 days after January 31, 2013. [40 C.F.R. § 63.7545(b)]
152. If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. [40 C.F.R. § 63.7545(d)]
153. If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in § 63.7575, you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in § 63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of this section.
  - a. Company name and address.
  - b. Identification of the affected unit.
  - c. Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.
  - d. Type of alternative fuel that you intend to use.
  - e. Dates when the alternative fuel use is expected to begin and end. [40 C.F.R. § 63.7545(f)]
154. If you have switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:

- a. The name of the owner or operator of the affected source, as defined in § 63.7490, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice.
  - b. The currently applicable subcategory under this subpart.
  - c. The date upon which the fuel switch or physical change occurred. [40 C.F.R. § 63.7545(h)]
- 155. You must submit each report in Table 9 to this subpart that applies to you. [40 C.F.R. § 63.7550(a)]
- 156. Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report, according to paragraph (h) of § 63.7550, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section.
  - a. The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in § 63.7495. If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in § 63.7495.
  - b. The first semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in § 63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.
  - c. Each subsequent semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.
  - d. Each subsequent semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

- e. For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in paragraphs (b)(1) through (4) of this section. [40 C.F.R. § 63.7550(b)]
157. A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule:
- a. Company and Facility name and address.
  - b. Process unit information, emissions limitations, and operating parameter limitations.
  - c. Date of report and beginning and ending dates of the reporting period.
  - d. If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit.
  - e. The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.
  - f. If you are conducting performance tests once every 3 years consistent with § 63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.
  - g. A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of § 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 16 of § 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of § 63.7530, that demonstrates that your source

is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 17 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 18 of § 63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

- h. If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of § 63.7530 or the maximum mercury input operating limit using Equation 8 of § 63.7530, or the maximum TSM input operating limit using Equation 9 of § 63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.
- i. If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.
- j. If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in § 63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.
- k. If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period 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 you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with § 63.7500(a)(3), including actions taken to correct the malfunction.
- l. If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent

than the level or control technology contained in the notification of compliance status in § 63.7545(e)(5)(i).

- m. For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values for CEMS (CO, HCl, SO<sub>2</sub>, and mercury), 10 day rolling average values for CO CEMS when the limit is expressed as a 10 day instead of 30 day rolling average, and the PM CPMS data.
  - n. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - o. For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of § 63.7555(d). [40 C.F.R. §63.7550(c)]
158. For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods if startup and shutdown, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section.
- a. A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.
  - b. Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.
  - c. If the deviation occurred during an annual performance test, provide the date the annual performance test was completed. [40 C.F.R. § 63.7550(d)]
159. For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in § 63.7505(d).
- a. The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from).
  - b. The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.
  - c. The date, time, and duration that each CMS was out of control, including the information in § 63.8(c)(8).

- d. The date and time that each deviation started and stopped.
  - e. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.
  - f. A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.
  - g. A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.
  - h. A brief description of the source for which there was a deviation.
  - i. A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation. [40 C.F.R. § 63.7550(e)]
160. You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of § 63.7550.
- a. Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance tests, including any fuel analyses, following the procedure specified in either paragraph (h)(1)(i) or (ii) of this section.
    - i. For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (<http://www.epa.gov/ttn/chief/ert/index.html>), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>.) Performance test data must be submitted in a file format generated through use of the EPA's ERT or an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S.

EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703.  
The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

- ii. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.
- b. Within 60 days after the date of completing each CEMS performance evaluation (as defined in 63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (h)(2)(i) or (ii) of this section.
- i. For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.
  - ii. For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in § 63.13.
- c. You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate

electronic file consistent with the XML schema listed on the CEDRI Web site (<http://www.epa.gov/ttn/chief/cedri/index.html>), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in § 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 C.F.R. § 63.7550(h)]

161. You must keep records according to paragraphs (a)(1) and (2) of § 63.7555 as specified below.
  - a. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in § 63.10(b)(2)(xiv).
  - b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in § 63.10(b)(2)(viii). [40 C.F.R. § 63.7555(a)]
162. For each CEMS, COMS, and continuous monitoring system you must keep records according to paragraphs (b)(1) through (5) of § 63.7555 as specified below.
  - a. Records described in § 63.10(b)(2)(vii) through (xi).
  - b. Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).
  - c. Records of the date and time that each deviation started and stopped. [40 C.F.R. § 63.7555(b)]
163. The permittee must keep the applicable records in paragraphs (d)(1) through (11) of § 63.7555 as specified below
  - a. You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.
  - b. A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of § 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 16 of § 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the



estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

- c. A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 17 of § 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.
- d. If, consistent with § 63.7515(b), you choose to stack test less frequently than annually, you must keep a record that documents that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit (or, in specific instances noted in Tables 1 and 2 or 11 through 13 to this subpart, less than the applicable emission limit), and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.
- e. Records of the occurrence and duration of each malfunction of the boiler or process heater, or of the associated air pollution control and monitoring equipment.
- f. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in § 63.7500(a)(3), including corrective actions to restore the malfunctioning boiler or process heater, air pollution control, or monitoring equipment to its normal or usual manner of operation.
- g. You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.
- h. You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

- i. For each startup period, for units selecting paragraph (2) of the definition of “startup” in § 63.7575 you must maintain records of the time that clean fuel combustion begins; the time when you start feeding fuels that are not clean fuels; the time when useful thermal energy is first supplied; and the time when the PM controls are engaged. [40 C.F.R. § 63.7555(d)]
164. Records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1). [40 C.F.R. § 63.7560(a)]
165. As specified in § 63.10(b)(1), each record must be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 C.F.R. § 63.7560(b)]
166. Each record must be kept on site, or must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). Records may be kept off site for the remaining 3 years. [40 C.F.R. § 63.7560(c)]

#### CEM Requirements

167. The Continuous Emission Monitor (CEM) for CO using O<sub>2</sub> monitoring on the 9A Boiler shall be operated in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 C.F.R. Part 60 Appendix B. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
168. The permittee shall properly maintain and operate the following existing continuous monitoring instrumentation: O<sub>2</sub>, pressure drop across the scrubber and liquid supply flow at the 9A Boiler. Unless parameters are reestablished during testing, the scrubber shall be operated as indicated below.
  - a. The permittee shall maintain a scrubber liquid flow rate of at least 2,772 gallons per minute.
  - b. The permittee shall maintain a gas pressure drop of at least 9.16 inches of water.

The permittee shall monitor and maintain records at least every 15 minutes of the scrubber parameters. Compliance shall be based upon a 3-hr average. Records shall be kept onsite and made available to the Department upon request. In the event of a fuel switch to natural gas only, operation and monitoring of the wet scrubber is not required; however, any other permitted fuel fed to the boiler shall be stopped at least one hour before the scrubber is taken offline. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and §8-4-311]

169. Continuous monitoring data from the continuous monitoring instrumentation may, at the discretion of the Department, be used to determine violations of the emissions limits or conditions of this permit. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
170. Compliance with the CO limit for the 9A Boiler shall be demonstrated by monitoring flue gas O<sub>2</sub> and maintaining the O<sub>2</sub> setpoint at not less than 2.0% O<sub>2</sub> (3-hour rolling average on a dry basis). Any operation outside this limit shall constitute noncompliance with this Specific Condition. The permittee shall maintain records of flue gas O<sub>2</sub> for the 9A Boiler and shall make them available to Department personnel upon request. These limits do not apply during startup and shutdown of the 9A Boiler. Startup and shutdown shall be defined as when the steam flow is less than 100,000 pounds per hour. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

#### Fuel Requirements

171. Natural gas, woodwaste, TDF, ADF, RDF, and wastewater sludge may be used as fuel in the 9A Boiler. RDF is defined as pelletized paper, lawn clippings or other similar materials. Creosote treated railroad crossties shall not constitute more than 25% of the fuel requirement of the 9A Boiler. [Reg.18.1004, §19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. §70.6]
172. The permittee shall not burn in excess of 35 pounds per minute of TDF in the 9A Boiler. [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
173. The permittee shall not burn in excess of 250 tons of RDF per day in the 9A Boiler. [Reg.18.1004, Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
174. The permittee shall not burn in excess of 45 BDT sludge per hour in the 9A Boiler. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]
175. The permittee shall maintain records which demonstrate compliance with Specific Conditions #171, 172, 173, and 174. The 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 twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [Reg.18.1004, Reg.19.705, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
176. Sulfur dioxide emission shall be determined through a mass balance based on incoming materials, and periods where the source is used as an alternate incinerator. This mass

balance shall be submitted to the Department in accordance with General Provision #7. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

177. Prior to combustion of the mill's wastewater treatment sludge in the 9A Boiler, the permittee shall submit a notification to the Department concerning the applicability of 40 C.F.R. 61 Subpart E – National Emission Standard for Mercury, and if applicable, submit a permit modification to incorporate the requirements of this subpart into the current Title V Air Permit. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

#### Testing Requirements

178. The permittee shall test particulate emissions from the 9A Boiler (SN-22) once every 5 years. If at any time the facility fails one of the 5-year tests, the facility must conduct two successive annual tests. The test will not be considered successful if particulate emissions exceed 0.103 lb/MM Btu for maximum wood waste firing or if measured emissions exceed the permitted limits. The test shall be performed using EPA Reference Method 5 with inclusion of back half sampling train particulate. The permittee shall submit an application to correct emission rates, if corrections are necessary. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [Reg.18.1002, Reg.19.702, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]
179. The permittee shall test nitrogen oxides emissions from the 9A Boiler (SN-22) every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E as found in 40 C.F.R. Part 60 Appendix A. The testing shall be done using a representative fuel mixture. The proportions of each permitted fuel in the representative fuel mixture shall be based upon the month during which the fuel that generates the highest nitrogen oxides emissions was used in greatest proportion. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]
180. The permittee shall test sulfur dioxide emissions from the 9A Boiler (SN-22) every 5 years. If at any time the facility fails one of the 5-year tests, then the facility must conduct two successive annual tests. The test will not be considered successful if sulfur dioxide emissions exceed 1.03 lb /MMBtu or if measured emissions exceeds the permitted limits. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6 or 6C. The testing shall be conducted using the maximum TDF firing rates. If maximum TDF firing rates cannot be achieved, the permittee shall be

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limited to the maximum tested firing rate. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

## Wastewater Treatment System

### Source Description

The mill processes wastewater generated from the Crossett Paper Operations, GP's Chemical Manufacturing Operations, GP's Plywood & Studmill Operations, and wastewater generated by the City of Crossett. Wastewater from the paper machines, pulping operations, recovery area, and woodyard operations flows through the P1 process sewer and through a primary clarifier to settle a large majority of settleable solids. Treated wastewater then exits the primary clarifier, combines with wastewater from the P3 process sewer and flows to the ash settling basins where the wastewater is subjected to further settling/filtration before flowing to the Aeration Stabilization Basin (ASB). In the event of a maintenance outage, a high solids loading or high stormwater flow to the primary clarifier, wastewater may be routed around the primary clarifier directly to the ash basins as a sole means of primary solids treatment and removal. Boiler blowdown and scrubber water associated with the four power boilers flows directly to the ash settling basins via the P3 process sewer, where ash is settled and mechanically removed prior to the wastewater being sent to the equalization basin and ASB. Wastewater exiting the ASB enters an earthen manmade canal which leads to Mossy Lake, then the treated wastewater flows to the Ouachita River via Coffee Creek.

SN-35

### Specific Conditions

181. The permittee shall not exceed the emission rates set forth in the following table. The emissions from this source are limited by the production levels of the mill. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN | Description                 | Pollutant | lb/hr | ton/yr |
|----|-----------------------------|-----------|-------|--------|
| 35 | Wastewater Treatment System | VOC       | 59.5  | 181.2  |
|    |                             | TRS       | 45.2  | 188.2  |

182. The permittee shall not exceed the emission rates set forth in the following table. The emissions from this source are limited by the production levels of the mill. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN | Description                 | Pollutant        | lb/hr | ton/yr |
|----|-----------------------------|------------------|-------|--------|
| 35 | Wastewater Treatment System | Ammonia          | 0.06  | 0.25   |
|    |                             | Hydrogen Sulfide | 32.18 | 141    |
|    |                             | Acetaldehyde     | 0.27  | 1.17   |
|    |                             | Acrolein         | 0.01  | 0.01   |
|    |                             | Carbon Disulfide | 0.17  | 0.47   |
|    |                             | Chloroform       | 0.23  | 0.6    |
|    |                             | Formaldehyde     | 0.01  | 0.02   |

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| SN | Description | Pollutant          | lb/hr | ton/yr |
|----|-------------|--------------------|-------|--------|
|    |             | Methanol           | 45.76 | 131.6  |
|    |             | Methyl Chloride    | 0.02  | 0.05   |
|    |             | Methylene Chloride | 0.01  | 0.03   |
|    |             | Naphthalene        | 0.04  | 0.09   |
|    |             | Phenol             | 0.01  | 0.01   |
|    |             | POM                | 0.04  | 0.09   |

## **Miscellaneous**

### **Source Description**

#### Roads

Fugitive dust at the facility is generated by the movement of truck traffic along paved and unpaved roads described as Road Emissions (SN-78F). Unpaved roads are located in the utilities area, woodyard area, laydown area, contractor area, onsite landfills, and the wastewater treatment system. Fugitive dust emissions are controlled by sweeping or watering on an “as-needed” basis.

#### Emergency Engines

The facility has six emergency engines on site which use diesel fuel. Caterpillar Model 3406 Firewater Pump Engine No. 1 (SN-115), Caterpillar Model 3406 Firewater Pump Engine No. 2 (SN-116), and Caterpillar Model 3406 Firewater Pump Engine No. 3 (SN-117) are existing engines (pre-2006) subject to NESHAP Subpart ZZZZ. The John Deere JU6H-UF58 Firewater Pump Engine No. 1 (SN-118), and John Deere JU6H-UF58 Firewater Pump Engine No. 2 (SN-119) are new engines (post-2006) subject to NESHAP Subpart ZZZZ and NSPS Subpart IIII requirements. The Cummins 382 Leachate Pump Backup Engine (SN-120) is used as a backup generator for two leachate pumps which is an existing engine subject to NESHAP Subpart ZZZZ.

#### Landfill Operations

There are two landfills at Crossett Paper Operations, the East Landfill and the North Landfill. The West Landfill ceased operation on September 1, 1998. The East Landfill is permitted to operate as a Class III Landfill and accepts only woodwaste and concrete debris. The North Landfill is an industrial landfill which accepts general waste from the mill. Combined emissions from these landfills are modelled and permitted as a single source described as Landfill Operations (SN-82F). No municipal waste is disposed in either landfill. The only significant source of emissions expected from these landfills is VOC emissions from the North Landfill. The North Landfill began operation on September 1, 1998. The North Landfill is located approximately two miles north of the mill. Leachate associated with the North and East landfills is collected and conveyed to GP's complex Wastewater Treatment System (SN-35) where it is treated prior to discharging it to the Ouachita River.

#### Miscellaneous Tanks

There are two general use No. 6 Fuel Oil Storage Tanks and one general use Gasoline Storage Tank listed as Insignificant Activities (A-13) at Crossett Paper Operations to supply fuel to various sources throughout the mill.

#### Water Bath Heater

An indirect natural gas water bath heater is used for natural gas line heating. The gas is preheated before entering 4 regulation trains to prevent freezing from excessively cold gas temperatures and damage to regulators and other equipment. The Water Bath Heater (SN-145) is subject to 40 C.F.R. § 63 Subpart DDDDD.



SN-78F and 82F

Specific Conditions

183. The permittee shall not exceed the emission rates set forth in the following table. The emissions are limited by the production levels of the mill. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN  | Description         | Pollutant         | lb/hr | ton/yr |
|-----|---------------------|-------------------|-------|--------|
| 78F | Road Emissions      | PM <sub>10</sub>  | 4.5   | 14.3   |
|     |                     | PM <sub>2.5</sub> | 0.6   | 1.7    |
| 82F | Landfill Operations | VOC               | 0.3*  | 1.0*   |

\*Limit set equal to Total HAPs.

184. The permittee shall not exceed the emission rates set forth in the following table. The emissions are limited by the production levels of the mill. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN  | Description         | Pollutant               | lb/hr | ton/yr |
|-----|---------------------|-------------------------|-------|--------|
| 78F | Road Emissions      | PM                      | 17.8  | 57.5   |
| 82F | Landfill Operations | Benzene                 | 0.02  | 0.08   |
|     |                     | Ethyl Benzene           | 0.01  | 0.05   |
|     |                     | Toluene                 | 0.15  | 0.65   |
|     |                     | Xylenes (mixed isomers) | 0.04  | 0.16   |

Dust Suppression

185. Nothing in this permit shall be construed to authorize a violation of the Arkansas Water and Air Pollution Control Act or the federal National Pollutant Discharge Elimination System (NPDES). [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-115, 116, 117, 118, 119, and 120

Specific Conditions

186. The permittee shall not exceed the emission rates set forth in the following table. Compliance shall be demonstrated by compliance with Specific Condition #148. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]

| SN  | Description                                  | Pollutant         | lb/hr | ton/yr |
|-----|--|-------------------|-------|--------|
| 115 | Caterpillar Model 3406 Firewater Pump Engine | PM <sub>10</sub>  | 1.0   | 0.3    |
|     |  | PM <sub>2.5</sub> | 1.0   | 0.3    |

| SN  | Description  | Pollutant         | lb/hr | ton/yr |
|-----|--|-------------------|-------|--------|
|     | No. 1  | SO <sub>2</sub>   | 0.9   | 0.3    |
|     |  | VOC               | 1.1   | 0.3    |
|     |  | CO                | 2.9   | 0.8    |
|     |  | NO <sub>x</sub>   | 13.1  | 3.3    |
| 116 | Caterpillar Model 3406<br>Firewater Pump Engine<br>No. 2 | PM <sub>10</sub>  | 1.0   | 0.3    |
|     |  | PM <sub>2.5</sub> | 1.0   | 0.3    |
|     |  | SO <sub>2</sub>   | 0.9   | 0.3    |
|     |  | VOC               | 1.1   | 0.3    |
|     |  | CO                | 2.9   | 0.8    |
|     |  | NO <sub>x</sub>   | 13.1  | 3.3    |
| 117 | Caterpillar Model 3406<br>Firewater Pump Engine<br>No. 3 | PM <sub>10</sub>  | 1.0   | 0.3    |
|     |  | PM <sub>2.5</sub> | 1.0   | 0.3    |
|     |  | SO <sub>2</sub>   | 0.9   | 0.3    |
|     |  | VOC               | 1.1   | 0.3    |
|     |  | CO                | 2.9   | 0.8    |
|     |  | NO <sub>x</sub>   | 13.1  | 3.3    |
| 118 | John Deere JU6H-UF58<br>Firewater Pump Engine<br>No. 1   | PM <sub>10</sub>  | 0.2   | 0.1    |
|     |  | PM <sub>2.5</sub> | 0.2   | 0.1    |
|     |  | SO <sub>2</sub>   | 0.3   | 0.1    |
|     |  | VOC               | 0.1   | 0.1    |
|     |  | CO                | 0.3   | 0.1    |
|     |  | NO <sub>x</sub>   | 1.8   | 0.5    |
| 119 | John Deere JU6H-UF58<br>Firewater Pump Engine<br>No. 2   | PM <sub>10</sub>  | 0.2   | 0.1    |
|     |  | PM <sub>2.5</sub> | 0.2   | 0.1    |
|     |  | SO <sub>2</sub>   | 0.3   | 0.1    |
|     |  | VOC               | 0.1   | 0.1    |
|     |  | CO                | 0.3   | 0.1    |
|     |  | NO <sub>x</sub>   | 1.8   | 0.5    |
| 120 | Cummins 382 Leachate<br>Pump Backup Engine               | PM <sub>10</sub>  | 0.2   | 0.1    |
|     |  | PM <sub>2.5</sub> | 0.2   | 0.1    |
|     |  | SO <sub>2</sub>   | 0.2   | 0.1    |
|     |  | VOC               | 0.3   | 0.1    |
|     |  | CO                | 0.6   | 0.2    |
|     |  | NO <sub>x</sub>   | 2.8   | 0.7    |

187. The permittee shall not exceed the emission rates set forth in the following table. Compliance shall be demonstrated by compliance with Specific Condition #148. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311]

| SN  | Description            | Pollutant | lb/hr | ton/yr |
|-----|------------------------|-----------|-------|--------|
| 115 | Caterpillar Model 3406 | PM        | 1.0   | 0.3    |

| SN  | Description   | Pollutant               | lb/hr | ton/yr |
|-----|---|-------------------------|-------|--------|
|     | Firewater Pump Engine No. 1                           | Acetaldehyde            | 0.01  | 0.01   |
|     |   | Benzene                 | 0.01  | 0.01   |
|     |   | Formaldehyde            | 0.01  | 0.01   |
|     |   | Naphthalene             | 0.01  | 0.01   |
|     |   | POM                     | 0.01  | 0.01   |
|     |   | Toluene                 | 0.01  | 0.01   |
|     |   | Xylenes (mixed isomers) | 0.01  | 0.01   |
| 116 | Caterpillar Model 3406<br>Firewater Pump Engine No. 2 | PM                      | 1.0   | 0.3    |
|     |   | Acetaldehyde            | 0.01  | 0.01   |
|     |   | Benzene                 | 0.01  | 0.01   |
|     |   | Formaldehyde            | 0.01  | 0.01   |
|     |   | Naphthalene             | 0.01  | 0.01   |
|     |   | POM                     | 0.01  | 0.01   |
|     |   | Toluene                 | 0.01  | 0.01   |
|     | Caterpillar Model 3406<br>Firewater Pump Engine No. 3 | Xylenes (mixed isomers) | 0.01  | 0.01   |
|     |   | PM                      | 1.0   | 0.3    |
|     |   | Acetaldehyde            | 0.01  | 0.01   |
|     |   | Benzene                 | 0.01  | 0.01   |
|     |   | Formaldehyde            | 0.01  | 0.01   |
|     |   | Naphthalene             | 0.01  | 0.01   |
|     |   | POM                     | 0.01  | 0.01   |
| 117 | Caterpillar Model 3406<br>Firewater Pump Engine No. 3 | Toluene                 | 0.01  | 0.01   |
|     |   | Xylenes (mixed isomers) | 0.01  | 0.01   |
|     |   | PM                      | 1.0   | 0.3    |
|     |   | Acetaldehyde            | 0.01  | 0.01   |
|     |   | Benzene                 | 0.01  | 0.01   |
|     |   | Formaldehyde            | 0.01  | 0.01   |
|     |   | Naphthalene             | 0.01  | 0.01   |
| 118 | John Deere JU6H-UF58<br>Firewater Pump Engine No. 1   | POM                     | 0.01  | 0.01   |
|     |   | Toluene                 | 0.01  | 0.01   |
|     |   | Xylenes (mixed isomers) | 0.01  | 0.01   |
|     |   | Formaldehyde            | 0.01  | 0.01   |
|     |   | Naphthalene             | 0.01  | 0.01   |
|     |   | Benzene                 | 0.01  | 0.01   |
|     |   | Acetaldehyde            | 0.01  | 0.01   |
| 119 | John Deere JU6H-UF58<br>Firewater Pump Engine No. 2   | PM                      | 0.2   | 0.1    |
|     |   | Acetaldehyde            | 0.01  | 0.01   |
|     |   | Benzene                 | 0.01  | 0.01   |
|     |   | Formaldehyde            | 0.01  | 0.01   |
|     |   | Naphthalene             | 0.01  | 0.01   |
|     |   | POM                     | 0.01  | 0.01   |
|     |   | Toluene                 | 0.01  | 0.01   |

| SN  | Description                             | Pollutant               | lb/hr | ton/yr |
|-----|---|-------------------------|-------|--------|
|     |   | Xylenes (mixed isomers) | 0.01  | 0.01   |
| 120 | Cummins 382 Leachate Pump Backup Engine | PM                      | 0.2   | 0.1    |
|     |   | Acetaldehyde            | 0.01  | 0.01   |
|     |   | Benzene                 | 0.01  | 0.01   |
|     |   | Formaldehyde            | 0.01  | 0.01   |
|     |   | Naphthalene             | 0.01  | 0.01   |
|     |   | POM                     | 0.01  | 0.01   |
|     |   | Toluene                 | 0.01  | 0.01   |
|     |   | Xylenes (mixed isomers) | 0.01  | 0.01   |

#### Opacity

188. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

| SN                    | Limit | Regulatory Citation                     |
|-----------------------|-------|---|
| SN-115 through SN-120 | 20%   | Reg.19.503 and 40 C.F.R. § 52 Subpart E |

189. Daily observations of the opacity from SN-115 through SN-120 shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9 when use exceeds 24-hours per event. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.
- The date and time of the observation.
  - If visible emissions which appeared to be above the permitted limit were detected.
  - If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if

the visible emissions appeared to be below the permitted limit after the corrective action was taken.

- d. The name of the person conducting the opacity observations. [Reg.19.705 and 40 C.F.R. § 52, Subpart E]

#### Fuel Requirements

190. The permittee is limited to 500 hours of operation for each source, SN-115 through SN-120. [Reg.19.501 *et seq.* and 40 C.F.R. § 52, Subpart E]
191. Diesel fuel shall be the only fuel used for the Emergency Generators, SN-115 through SN-120. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by §§ 8-4-304 and 8-4-311, and 40 C.F.R. §70.6]

#### NSPS IIII

192. SN-118 and SN-119, as CI ICE, certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006, are subject to the requirements of Subpart IIII—*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. [40 C.F.R. § 60.4200]
193. As owners or operators of SN-118 and SN-119, engines with a displacement of less than 30 liters per cylinder, the permittee must comply with the emission standards in Table 4 to this subpart, for all pollutants. [40 C.F.R. § 60.4205I]

| Size       | Year             | NMHC + NO <sub>x</sub><br>g/HP-hr | CO<br>g/HP-hr | PM<br>g/HP-hr |
|------------|------------------|-----------------------------------|---------------|---------------|
| 100≤HP<175 | 2009 and earlier | 7.8                               | 3.7           | 0.6           |

194. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. [40 C.F.R. § 60.4206]
195. Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 C.F.R. 80.510(b) for non-road diesel fuel. [40 C.F.R. § 60.4207(b)]
196. Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the

petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator. [40 C.F.R. § 60.4207(c)]

197. The permittee must install a non-resettable hour meter at SN-118 and SN-119. [40 C.F.R. § 60.4209(a)]
198. The permittee must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. The permittee must also meet the requirements of 40 C.F.R. parts 89, 94 and/or 1068, as they apply to you. [40 C.F.R. § 60.4211(a)]
199. The permittee, as an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in § 60.4205I, must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section. [40 C.F.R. § 60.4211(b)]
  - a. Purchasing an engine certified according to 40 C.F.R. part 89 or 40 C.F.R. part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
  - b. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
  - c. Keeping records of engine manufacturer data indicating compliance with the standards.
  - d. Keeping records of control device vendor data indicating compliance with the standards.
  - e. Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in § 60.4212, as applicable.
200. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be

used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under § 60.4205 but not § 60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited. [40 C.F.R. § 60.4211I]

201. The permittee must conduct performance tests according to paragraphs (a) through (d) of this section. [40 C.F.R. § 60.4212]

- a. The performance test must be conducted according to the in-use testing procedures in 40 C.F.R. part 1039, subpart F.
- b. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 C.F.R. part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 C.F.R. 1039.101I and 40 C.F.R. 1039.102(g)(1), except as specified in 40 C.F.R. 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 C.F.R. part 1039.
- c. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 C.F.R. 89.112 or 40 C.F.R. 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 C.F.R. 89.112 or 40 C.F.R. 94.8, as applicable, determined from the following equation:

Where:

STD = The standard specified for that pollutant in 40 C.F.R. 89.112 or 40 C.F.R. 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 C.F.R. 89.112 or 40 C.F.R. 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

- d. Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in § 60.4204(a), § 60.4205(a), or § 60.4205(c) may follow the testing procedures specified in § 60.4213, as appropriate.

202. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. [40 C.F.R. § 60.4214(b)]

NESHAP ZZZZ

203. The Emergency Generators, SN-115 through SN-120, are subject to the requirements of NESHAP ZZZZ- *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*.
- a. SN-118 and SN-119 are new (commenced construction on or after June 12, 2006) compression ignition (CI) stationary RICEs with a site rating of less than or equal to 500 brake HP and located at a major source of HAP emissions. [40 C.F.R. § 63.6590(a)(2)(ii)]
  - b. SN-115, SN-116, SN-117 and SN-120 are existing (commenced construction before June 12, 2006) compression ignition (CI) stationary RICEs with a site rating of less than or equal to 500 brake HP located at a major source of HAP. [40 C.F.R. § 63.6590(a)(1)(ii)]
204. SN-118 and SN-119, as new compression ignition stationary RICE with a site rating of less than or equal to 500 HP, must meet the requirements of NESHAP ZZZZ by meeting the requirements of 40 C.F.R. part 60 subpart IIII, for compression ignition engines. No further requirements apply for such engines under this subpart. [40 C.F.R. § 63.6590(c)(7)]
205. SN-115, SN-116, SN-117 and SN-120 must comply with the applicable requirements in Table 2c. [40 C.F.R. § 63.6602 and Table 2c]
- a. Change oil and filter every 500 hours of operation or annually, whichever comes first.
  - b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.
  - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.



- d. Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.
  - e. Sources can petition the Administrator pursuant to the requirements of 40 C.F.R. 63.6(g) for alternative work practices.
206. The permittee must be in compliance with the operating limitations in this subpart that apply to you at all times. [40 C.F.R. § 63.6605(a)]
207. The permittee must 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. [40 C.F.R. § 63.6605(b)]
208. The permittee must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 C.F.R. § 63.6625(e)(2)]
209. The permittee must install a non-resettable hour meter at SN-115, SN-116, SN-117 and SN-120 if one has not already been installed. [40 C.F.R. § 63.6625(f)]
210. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 C.F.R. § 63.6625(h)(i)]

211. The permittee must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines. [40 C.F.R. § 63.6640(f)]
- a. There is no time limit on the use of emergency stationary RICE in emergency situations. [40 C.F.R. § 63.6640(f)(i)]
  - b. You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [40 C.F.R. § 63.6640(f)(ii)]
  - c. You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power. [40 C.F.R. § 63.6640(f)(iii)]

212. As existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards, the permittee is exempt from submitting the notifications in §§ 63.7(b) and (c), 63.8I, (f)(4) and (f)(6), 63.9(b) through I, and (g) and (h). [40 C.F.R. § 63.6645(a)(5)]
213. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE. [40 C.F.R. § 63.6655(e)]
214. The permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 C.F.R. § 63.6655(f)]
215. The permittee must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1). [40 C.F.R. § 63.6660(a)]
216. The permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 C.F.R. § 63.6660(b)]
217. The permittee must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). [40 C.F.R. § 63.6660(c)]

SN-145

Specific Conditions

218. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition shall be demonstrated by compliance with Specific Condition #221. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

| SN  | Description       | Pollutant         | lb/hr | tpy |
|-----|-------------------|-------------------|-------|-----|
| 145 | Water Bath Heater | PM <sub>10</sub>  | 0.1   | 0.1 |
|     |                   | PM <sub>2.5</sub> | 0.1   | 0.1 |
|     |                   | SO <sub>2</sub>   | 0.1   | 0.1 |
|     |                   | VOC               | 0.1   | 0.1 |

| SN | Description | Pollutant       | lb/hr | tpy  |
|----|-------------|-----------------|-------|------|
|    |             | CO              | 0.3   | 1.1  |
|    |             | NO <sub>x</sub> | 0.3   | 1.3  |
|    |             | Pb              | 0.01  | 0.01 |

219. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition shall be demonstrated by compliance with Specific Condition #179. [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  |
|-----|-------------------|----------------|-------|------|
| 145 | Water Bath Heater | PM             | 0.1   | 0.1  |
|     |                   | Arsenic        | 0.01  | 0.01 |
|     |                   | Benzene        | 0.01  | 0.01 |
|     |                   | Cadmium        | 0.01  | 0.01 |
|     |                   | Chromium (III) | 0.01  | 0.01 |
|     |                   | Cobalt         | 0.01  | 0.01 |
|     |                   | Formaldehyde   | 0.01  | 0.01 |
|     |                   | Hexane         | 0.01  | 0.03 |
|     |                   | Manganese      | 0.01  | 0.01 |
|     |                   | Mercury        | 0.01  | 0.01 |
|     |                   | Naphthalene    | 0.01  | 0.03 |
|     |                   | Nickel         | 0.01  | 0.01 |
|     |                   | POM            | 0.01  | 0.03 |
|     |                   | Toluene        | 0.01  | 0.01 |

220. The permittee shall not cause to be discharged to the atmosphere from SN-145 gases which exhibit opacity greater than 5%. Compliance with this condition shall be demonstrated by compliance with Specific Condition #179. [Reg.18.501, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

221. The permittee shall not use any fuel other than natural gas for SN-145. [Reg.18.1004, 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. § 52 Subpart E]

#### NESHAP DDDDD

222. The Water Bath Heater (SN-145) is a new industrial process heater located at a major source of HAPs, and is subject to 40 C.F.R. 63 Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* (Boiler MACT). The Water Bath Heater is in the subcategory for units designed to burn gas 1 fuels specified in 40 C.F.R. § 63.7499(l). The permittee shall comply with all applicable requirements of the Boiler MACT including but not limited to those specified in Specific Conditions #223 through 238. [Reg.19.304 and 40 C.F.R. §§ 63.7485 and 63.7490]
223. The permittee shall comply with Boiler MACT requirements for SN-145 upon startup. [Reg.19.304 and 40 C.F.R. § 63.7495(a)]
224. The permittee shall meet the notification requirements in Specific Conditions #232 and 233 and in subpart A of § 40 C.F.R. Part 63. Some of the notifications must be submitted before you are required to comply with the applicable work practice standards. [Reg.19.304 and 40 C.F.R. § 63.7495(d)]
225. If you switch fuels or make a physical change that results in the applicability of a different subcategory, you must be in compliance with the applicable new source provisions of this subpart on the effective date of the fuel switch or physical change. [Reg.19.304 and 40 C.F.R. § 63.7495(i)]
226. The permittee shall complete a tune-up every 5 years as specified in Specific Condition #230 and 231. [Reg.19.304 and 40 C.F.R. § 63.7500(e)]
227. The permittee shall be in compliance with the work practice standards at all times. [Reg.19.304 and 40 C.F.R. § 63.7505]
228. The permittee shall demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the 5-year schedule as specified in Specific Condition #229 following startup of SN-145. [Reg.19.304 and 40 C.F.R. § 63.7510(g)]

| Table 3  |  |
|--|--|
| If your unit is . . .  | You must meet the following . . .          |
| 1. A <b>new</b> or existing boiler or <b>process heater</b> with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a <b>heat input</b> | Conduct a tune-up of the boiler or process |

| Table 3   |   |
|---|---|
| <b>capacity of less than or equal to 5 million Btu per hour</b> in any of the following subcategories: <b>unit designed to burn gas 1</b> ; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater | heater every 5 years as specified in § 63.7540. |

229. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. The first 5-year tune-up must be no later than 61 months after the initial startup of SN-145. [Reg.19.304 and 40 C.F.R. § 63.7515(d)]
230. The permittee shall conduct the tune-up as specified below to demonstrate continuous compliance. You may delay the burner inspection as specified below until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
- As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
  - Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
  - Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;
  - Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOX requirement to which the unit is subject;
  - Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

- f. Maintain on-site and submit, if requested by the Administrator, a report containing the information below,
  - i. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
  - ii. A description of any corrective actions taken as a part of the tune-up; and
  - iii. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

[Reg.19.304 and 40 C.F.R. §§ 63.7540(a)(10) and 63.7540(a)(12)]

231. If SN-145 is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [Reg.19.304 and 40 C.F.R. § 63.7540(a)(13)]
232. The permittee shall submit to the Administrator all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply by the dates specified. [Reg.19.304 and 40 C.F.R. § 63.7545(a)]
233. The permittee shall submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. [Reg.19.304 and 40 C.F.R. § 63.7545(c)]
234. The permittee shall submit a compliance report as specified in Table 9.

| <b>Table 9</b>              |  |   |
|-----------------------------|--|---|
| <b>You must submit a(n)</b> | <b>The report must contain . . .</b>                   | <b>You must submit the report . . .</b>   |
| 1. Compliance report        | a. Information required in §63.7550(c)(1) through (5). | Semiannually, annually, biennially, or <b>every 5 years</b> according to the requirements in §63.7550(b). |

[Reg.19.304 and 40 C.F.R. § 63.7550(a)]

235. The permittee shall submit 5-year compliance reports, as specified below.
  - a. The first compliance report must cover the period beginning upon startup of SN-145, and ending on December 31 within 5 years, after startup.

- b. The first compliance report must be postmarked or submitted no later than January 31.
- c. Each subsequent compliance report must cover the 5-year periods from January 1 to December 31.
- d. Each subsequent compliance report must be postmarked or submitted no later than January 31.

[Reg.19.304 and 40 C.F.R. § 63.7550(b)]

236. Each compliance report must contain the following information.

- a. Company and Facility name and address.
- b. Process unit information, emissions limitations, and operating parameter limitations.
- c. Date of report and beginning and ending dates of the reporting period.
- d. Include the date of the most recent tune-up. Include the date of the most recent burner inspection if it was not done on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.
- e. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[Reg.19.304 and 40 C.F.R. § 63.7550(c)]

237. The permittee shall keep the following records.

- a. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or compliance report that you submitted, according to the requirements in § 63.10(b)(2)(xiv).
- b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in § 63.10(b)(2)(viii).

[Reg.19.304 and 40 C.F.R. § 63.7555]

238. Records shall be maintained as specified below.

- a. Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).



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- b. You shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- c. You shall keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records off site for the remaining 3 years.

[Reg.19.304 and 40 C.F.R. § 63.7560]

## **SECTION V: COMPLIANCE PLAN AND SCHEDULE**

Georgia-Pacific Consumer Operations LLC (GP) is in compliance with all applicable permit requirements, with the exception of permitted particulate matter (PM), particulate matter with aerodynamic diameter less than 10 microns (PM<sub>10</sub>), and particulate matter with aerodynamic diameter less than 2.5 microns (PM<sub>2.5</sub>) from the facility's Tissue Machine Nos. 5, 6, 7, and 8, due solely to emission factor changes for these pollutants. GP is requesting updates to the following sources associated with the listed tissue machines:

- Tissue Machine No. 5: SN-47, SN-68;
- Tissue Machine No. 6: SN-48, SN-69;
- Tissue Machine No. 7: SN-49, SN-70;
- Tissue Machine No. 8: SN-79, SN-80.

As set forth in more detail in GP's March 2021 Significant Modification Application, GP has not made any physical changes or changes in the method of operation with regard to the above-listed tissue machine sources. GP does, however, propose to update the PM, PM<sub>10</sub> and PM<sub>2.5</sub> emission limits to reflect the latest information and emission factors GP has developed for similar sources at other GP locations. Because the updated emission factors will, in most cases, result in an increase in emissions above the current permit limits, the Division has advised GP to complete this compliance plan and schedule. As set forth in this compliance plan, any alleged noncompliance attributable to this emission factor update will be addressed by issuance of this permit.

GP will continue to comply with applicable requirements with which the facility is in compliance, and will report any noncompliance in accordance with the applicable reporting requirements. GP will meet any new applicable air permitting requirements that may become effective during the permit term within the regulatory time frames specified under the new applicable requirements.

Issuance of this permit will bring this issue to closure, as the incorporation of the emission factor updates will be reflected in the revised permitted emissions. The submittal of the permit application acts as the corrective action to update the outdated emission factors which provided the basis for the permitted emissions being corrected by the submittal. During the interim period until final revised permit is issued, and thereafter, GP will operate and maintain the tissue machines and associated emission control equipment to minimize emissions. GP will promptly respond to any inquiries related to processing the permit application.

## **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 sixty (60) 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]

#### Requirements for a Passing NAAQS Demonstration

7. The following requirements shall apply to any new Diamond project source or any existing source affected by the Diamond project changes as submitted to the Department in the January 11, 2011 application.
  - a. Except as otherwise provided in paragraph (r)(6)(vi)(b) of this section, the provisions of this paragraph (r)(6) apply with respect to any regulated NSR pollutant emitted from projects at existing emissions units at a major stationary source (other than projects at a source with a PAL) in circumstances where there is a reasonable possibility, within the meaning of paragraph (r)(6)(vi) of this section, that a project that is not a part of a major modification may result in a significant emissions increase of such pollutant, and the owner or operator elects to use the method specified in paragraphs (b)(41)(ii)(a) through (c) of this section for calculating projected actual emissions.
    - i. Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:
    - ii. A description of the project;
    - iii. Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and
    - iv. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under paragraph (b)(41)(ii)(c) of this section and an explanation for why such amount was excluded, and any netting calculations, if applicable.
  - b. The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in paragraph (r)(6)(i)(b) of this section; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit that regulated NSR pollutant at such emissions unit.
  - c. If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the Administrator if the annual emissions, in tons per year, from the project identified in paragraph (r)(6)(i) of this section, exceed the baseline actual emissions (as documented and maintained

pursuant to paragraph (r)(6)(i)(c) of this section), by a significant amount (as defined in paragraph (b)(23) of this section) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to paragraph (r)(6)(i)(c) of this section. Such report shall be submitted to the Administrator within 60 days after the end of such year. The report shall contain the following:

- i. The name, address and telephone number of the major stationary source;
  - ii. The annual emissions as calculated pursuant to paragraph (r)(6)(iii) of this section; and
  - iii. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).
- d. A “reasonable possibility” under paragraph (r)(6) of this section occurs when the owner or operator calculates the project to result in either:
- i. A projected actual emissions increase of at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (b)(40) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant; or
  - ii. A projected actual emissions increase that, added to the amount of emissions excluded under paragraph (b)(41)(ii)(c) of this section, sums to at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (b)(40) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant. For a project for which a reasonable possibility occurs only within the meaning of paragraph (r)(6)(vi)(b) of this section, and not also within the meaning of paragraph (r)(6)(vi)(a) of this section, then provisions (r)(6)(ii) through (v) do not apply to the project.
- e. The owner or operator of the source shall make the information required to be documented and maintained pursuant to paragraph (r)(6) of this section available for review upon a request for inspection by the Administrator or the general public pursuant to the requirements contained in §70.4(b)(3)(viii) of this chapter. [40 C.F.R. § 52 Subpart A § 52.21(r)]

#### 40 C.F.R. Part 63, Subpart JJJJ Requirements

8. The permittee must limit organic HAP emissions at SN-111, 112, 113, 141, 142 and 143 to no more than 4 percent of the mass of coating materials applied for each month. [40 C.F.R. § 63.3320(b)(2)]

9. A new affected source subject to the provisions of this subpart, your compliance date is immediately upon start-up of the new affected source or by December 4, 2002, whichever is later. You must complete any performance test required in §63.3360 within the time limits specified in §63.7(a)(2). [40 C.F.R. Part § 63.3330(a)]
10. An existing affected source subject to the provisions of this subpart, you must comply by the compliance date. The compliance date for existing affected sources in this subpart is December 5, 2005. You must complete any performance test required in §63.3360 within the time limits specified in § 63.7(a)(2). [40 C.F.R. Part § 63.3330(b)]
11. Organic HAP content. If you determine compliance with the emission standards in § 63.3320 by means other than determining the overall organic HAP control efficiency of a control device, you must determine the organic HAP mass fraction of each coating material “as-purchased” by following one of the procedures in paragraphs I(1) through (3) of this section, and determine the organic HAP mass fraction of each coating material “as-applied” by following the procedures in paragraph I(4) of this section. If the organic HAP content values are not determined using the procedures in paragraphs I(1) through (3) of this section, the owner or operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with §63.7(f). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.
  - a. Method 311. You may test the coating material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the owner or operator. The organic HAP content must be calculated according to the criteria and procedures in paragraphs I(1)(i) through (iii) of this section. [40 C.F.R. § 63.3360I(1)]
    - i. Include each organic HAP determined to be present at greater than or equal to 0.1 mass percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 C.F.R. 1910.1200(d)(4) and greater than or equal to 1.0 mass percent for other organic HAP compounds. [40 C.F.R. § 63.3360I(1)(i)]
    - ii. Express the mass fraction of each organic HAP you include according to paragraph I(1)(i) of this section as a value truncated to four places after the decimal point (for example, 0.3791). [40 C.F.R. § 63.3360I(1)(ii)]
    - iii. Calculate the total mass fraction of organic HAP in the tested material by summing the counted individual organic HAP mass fractions and truncating the result to three places after the decimal point (for example, 0.763). [40 C.F.R. § 63.3360I(1)(iii)]

- b. Method 24. For coatings, determine the volatile organic content as mass fraction of non-aqueous volatile matter and use it as a substitute for organic HAP using Method 24 of 40 C.F.R. part 60, appendix A. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to you. [40 C.F.R. § 63.3360I(2)]
  - c. Formulation data. You may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 311 (appendix A of 40 C.F.R. part 63) test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 C.F.R. 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used. [40 C.F.R. § 63.3360I(3)]
  - d. As-applied organic HAP mass fraction. If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction. Otherwise, the as-applied organic HAP mass fraction must be calculated using Equation 1a of § 63.3370. [40 C.F.R. § 63.3360I(4)]
12. Volatile organic and coating solids content. If you determine compliance with the emission standards in § 63.3320 by means other than determining the overall organic HAP control efficiency of a control device and you choose to use the volatile organic content as a surrogate for the organic HAP content of coatings, you must determine the as-purchased volatile organic content and coating solids content of each coating material applied by following the procedures in paragraph (d)(1) or (2) of this section, and the as-applied volatile organic content and coating solids content of each coating material by following the procedures in paragraph (d)(3) of this section.
- a. Method 24. You may determine the volatile organic and coating solids mass fraction of each coating applied using Method 24 (40 C.F.R. part 60, appendix A.) The Method 24 determination may be performed by the manufacturer of the material and the results provided to you. If these values cannot be determined using Method 24, you must submit an alternative technique for determining their values for approval by the Administrator. [40 C.F.R. § 63.3360(d)(1)]
  - b. Formulation data. You may determine the volatile organic content and coating solids content of a coating material based on formulation data and may rely on volatile organic content data provided by the manufacturer of the material. In the event of any inconsistency between the formulation data and the results of Method 24 of 40 C.F.R. part 60, appendix A, and the Method 24 results are higher, the results of Method 24 will govern. [40 C.F.R. § 63.3360(d)(2)]

- c. As-applied volatile organic content and coating solids content. If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied volatile organic content is equal to the as-purchased volatile content and the as-applied coating solids content is equal to the as-purchased coating solids content. Otherwise, the as-applied volatile organic content must be calculated using Equation 1b of § 63.3370 and the as-applied coating solids content must be calculated using Equation 2 of § 63.3370. [40 C.F.R. § 63.3360(d)(3)]
- 13. Volatile matter retained in the coated web or otherwise not emitted to the atmosphere. The permittee may choose to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere when determining compliance with the emission standards in § 63.3320. If you choose this option, you must develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit this protocol to the Administrator for approval. You must submit this protocol with your site-specific test plan under § 63.7(f). If you intend to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere and demonstrate compliance according to § 63.3370I(3), I(4), I(5), or (d), then the test protocol you submit must determine the mass of organic HAP retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance must be shown using the volatile organic matter content as a surrogate for the HAP content of the coatings. [40 C.F.R. Part § 63.3360(g)]
- 14. The permittee must demonstrate compliance with this subpart by following the procedures in § 63.3370.
  - a. As-purchased “compliant” coating materials
    - i. If you comply by using coating materials that individually meet the emission standards in § 63.3320(b)(2) or (3), you must demonstrate that each coating material applied during the month at an existing affected source contains no more than 0.04 mass fraction organic HAP or 0.2 kg organic HAP per kg coating solids, and that each coating material applied during the month at a new affected source contains no more than 0.016 mass fraction organic HAP or 0.08 kg organic HAP per kg coating solids on an as-purchased basis as determined in accordance with § 63.3360(c). [40 C.F.R. Part § 63.3370(b)(1)]
    - ii. You are in compliance with emission standards in § 63.3320(b)(2) and (3) if each coating material applied at an existing affected source is applied as-purchased and contains no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and each coating material applied at a new affected source is applied as-purchased



and contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids. [40 C.F.R. Part § 63.3370(b)(2)]

b. Use of “as-applied” compliant coating materials

- i. Each coating material as-applied meets the mass fraction of coating material standard (§ 63.3320(b)(2)). You must demonstrate that each coating material applied at an existing affected source during the month contains no more than 0.04 kg organic HAP per kg coating material applied, and each coating material applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material applied as determined in accordance with paragraphs (c)(1)(i) and (ii) of this section. You must calculate the as-applied organic HAP content of as-purchased coating materials which are reduced, thinned, or diluted prior to application. [40 C.F.R. Part § 63.3370(c)(1)(i) and (ii)]
  1. Determine the organic HAP content or volatile organic content of each coating material applied on an as-purchased basis in accordance with § 63.3360I.
  2. Calculate the as-applied organic HAP content of each coating material using Equation 1a or 1b of this section
- ii. Each coating material as-applied meets the mass fraction of coating solids standard (§ 63.3320(b)(3)). You must demonstrate that each coating material applied at an existing affected source contains no more than 0.20 kg of organic HAP per kg of coating solids applied and each coating material applied at a new affected source contains no more than 0.08 kg of organic HAP per kg of coating solids applied. You must demonstrate compliance in accordance with paragraphs (c)(2)(i) and (ii) of this section. [40 C.F.R. Part § 63.3370(c)(2)(i) and (ii)]
  1. Determine the as-applied coating solids content of each coating material following the procedure in § 63.3360(d). You must calculate the as-applied coating solids content of coating materials which are reduced, thinned, or diluted prior to application, using Equation 2 of this section
  2. Calculate the as-applied organic HAP to coating solids ratio using Equation 3 of this section.
- iii. Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit (§ 63.3320(b)(2)). Demonstrate that the monthly average as-applied organic HAP content of all coating materials

applied at an existing affected source is less than 0.04 kg organic HAP per kg of coating material applied, and all coating materials applied at a new affected source are less than 0.016 kg organic HAP per kg of coating material applied, as determined by Equation 4 of this section. [40 C.F.R. Part § 63.3370(c)(3)]

- iv. Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit (§63.3320(b)(2)). Demonstrate that the monthly average as-applied organic HAP content of all coating materials applied at an existing affected source is less than 0.04 kg organic HAP per kg of coating material applied, and all coating materials applied at a new affected source are less than 0.016 kg organic HAP per kg of coating material applied, as determined by Equation 4 of this section. [40 C.F.R. Part § 63.3370(c)(4)]
  - v. The affected source is in compliance with emission standards in § 63.3320(b)(2) or (3) if: [40 C.F.R. Part § 63.3370(c)(5)(i) and (ii)]
    - 1. The organic HAP content of each coating material as-applied at an existing affected source is no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and the organic HAP content of each coating material as-applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids; or
    - 2. The monthly average organic HAP content of all as-applied coating materials at an existing affected source are no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and the monthly average organic HAP content of all as-applied coating materials at a new affected source is no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids.
  - c. Tracking total monthly organic HAP applied. Demonstrate that the total monthly organic HAP applied as determined by Equation 6 of this section is less than the calculated equivalent allowable organic HAP as determined by Equation 13a or b in paragraph (l) of this section. [40 C.F.R. Part § 63.3370(d)]
15. The permittee must submit an initial notification as required by § 63.9(b). [40 C.F.R. Part § 63.3400(b)(1-4)]
- a. Initial notification for existing affected sources must be submitted no later than 1 year before the compliance date specified in § 63.3330(a).

- b. Initial notification for new and reconstructed affected sources must be submitted as required by § 63.9(b).
  - c. For the purpose of this subpart, a title V or part 70 permit application may be used in lieu of the initial notification required under § 63.9(b), provided the same information is contained in the permit application as required by § 63.9(b) and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA to implement and enforce this subpart.
  - d. If you are using a permit application in lieu of an initial notification in accordance with paragraph (b)(3) of this section, the permit application must be submitted by the same due date specified for the initial notification.
- 16. The permittee must submit a semiannual compliance report according to paragraphs I(1) and (2) of this section.
  - a. Compliance report dates. [40 C.F.R. Part § 63.3400I(1)(i-v)]
    - i. The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.3330 and ending on June 30 or December 31, whichever date is the first date following the end of the calendar half immediately following the compliance date that is specified for your affected source in § 63.3330.
    - ii. The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the calendar half immediately following the compliance date that is specified for your affected source in § 63.3330.
    - iii. Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
    - iv. Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
    - v. For each affected source that is subject to permitting regulations pursuant to 40 C.F.R. part 70 or 40 C.F.R. part 71, and the permitting authority has established dates for submitting semiannual reports pursuant to § 70.6(a)(3)(iii)(A) or § 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting

authority has established instead of according to the dates in paragraphs (c)(1)(i) through (iv) of this section.

- b. The compliance report must contain the information in paragraphs I(2)(i) through (vi) of this section: [40 C.F.R. Part § 63.3400I(2)(i-v)]
  - i. Company name and address.
  - ii. Statement by a responsible official with that official's name, title, and signature certifying the accuracy of the content of the report.
  - iii. Date of report and beginning and ending dates of the reporting period.
  - iv. If there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period, and that no CMS was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.
  - v. For each deviation from an emission limitation (emission limit or operating limit) that applies to you and that occurs at an affected source where you are not using a CEMS to comply with the emission limitations in this subpart, the compliance report must contain the information in paragraphs I(2)(i) through (iii) of this section, and:
    - 1. The total operating time of each affected source during the reporting period.
    - 2. Information on the number, duration, and cause of deviations (including unknown cause), if applicable, and the corrective action taken.
    - 3. Information on the number, duration, and cause for CPMS downtime incidents, if applicable, other than downtime associated with zero and span and other calibration checks.
- 17. The permittee must submit a Notification of Compliance Status as specified in § 63.9(h). [40 C.F.R. Part § 63.3400I]
- 18. Each owner or operator of an affected source subject to this subpart must maintain the records specified in paragraphs (a)(1) and (2) of this section on a monthly basis in accordance with the requirements of § 63.10(b)(1). Records specified in § 63.10(b)(2) of all measurements needed to demonstrate compliance with this standard, including:

- a. Organic HAP content data for the purpose of demonstrating compliance in accordance with the requirements of § 63.3360I;
- b. Volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of § 63.3360(d);
- c. Material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with the requirements of § 63.3370(b), (c), and (d). [40 C.F.R. Part § 63.3401(a)(1)(i-vi)]

#### Title VI Provisions

- 19. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 C.F.R. § 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. § 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. § 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. § 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. § 82 Subpart G.

## SECTION VII: INSIGNIFICANT ACTIVITIES

The Division of Environmental Quality deems the following types of activities or emissions as insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A of the Insignificant Activities list found in Regulation 18 and Regulation 19 Appendix A. Group B insignificant activities may be listed but are not required to be listed in permits. Insignificant activity emission determinations rely upon the information submitted by the permittee in applications dated May 25, 2018 and April 2, 2021. [Reg.26.304 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

| Description   | Category |
|---|----------|
| Diesel Tank   | A-3      |
| REYMSA Tissue Mill Cooling Tower                          | A-13     |
| AP&L Substation Cooling Tower                             | A-13     |
| Gasoline Tank   | A-13     |
| Perini Towel Rewinder and Spectrum Towel Printer Baghouse | A-13     |
| Mill Process Sewers                                       | A-13     |
| Bale Repulper C2  | A-13     |
| Repulper D  | 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 Division of Environmental Quality takes final action on the renewal application. The Division of Environmental Quality 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 electronically using <https://portal.adeq.state.ar.us> or mail them to the address below:

Division of Environmental Quality  
Office of Air Quality  
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 Division of Environmental Quality 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 Division of Environmental Quality 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 Division of Environmental Quality 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 Division of Environmental Quality 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 Division of Environmental Quality 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 Division of Environmental Quality 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 pursuant to 40 C.F.R. § 70 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 Division of Environmental Quality, 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 Division of Environmental Quality. 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 Division of Environmental Quality 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 Division of Environmental Quality approval. The Division of Environmental Quality 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 Division of Environmental Quality approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Division of Environmental Quality 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 Division of Environmental Quality 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 Division of Environmental Quality approval. The Division of Environmental Quality may grant such a request, at its discretion under the following conditions:

- b. The request does not violate a federal requirement;
- c. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
- d. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

Georgia-Pacific Crossett LLC

Permit #: 0597-AOP-R23

AFIN: 02-00013

[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]

27. Any credible evidence based on sampling, monitoring, and reporting may be used to determine violations of applicable emission limitations. [Reg.18.1001, Reg.19.701, 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]

## Appendix A: Continuous Emission Monitoring Systems Conditions



# **CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS**

Division of Environmental Quality

Office of Air Quality

12/3/2020



## **PREAMBLE**

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally, there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 C.F.R. § 60 or 63.
2. CEMS required by 40 C.F.R § 75.
3. CEMS/COMS required by permit for reasons other than § 60, 63 or 75.

These CEMS/COMS conditions are not intended to supersede 40 C.F.R. § 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by the Arkansas Department of Energy and Environment's (Department) Division of Environmental Quality (DEQ) permit for reasons other than 40 C.F.R. § 60, 63 or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.
- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

## SECTION I

### DEFINITIONS

**Continuous Emission Monitoring System (CEMS)** – The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

**Continuous Opacity Monitoring System (COMS)** – The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

**Calibration Drift (CD)** – The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

**Back-up CEMS (Secondary CEMS)** – A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

**Excess Emissions** – Any period in which the emissions exceed the permit limits.

**Monitor Downtime** – Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

**Out-of-Control Period** – Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the Relative Accuracy Test Audit (RATA), Relative Accuracy Audit (RAA), or Cylinder Gas Audit (CGA) which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

**Primary CEMS** – The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

**Relative Accuracy (RA)** – The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

**Span Value** – The upper limit of a gas concentration measurement range.

## SECTION II

### **MONITORING REQUIREMENTS**

**\*\* Only CEMS/COMS required by DEQ permit for reasons other than 40 C.F.R. § 60, 63 or 75 shall comply with this section.**

- A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.
- B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.
- C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 C.F.R. § 60, Appendix B, PS 1-9. DEQ may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the DEQ CEM Coordinator prior to testing.
- D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 C.F.R. § 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval, the excess zero and span drifts measured must be quantified and recorded.
- E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.
- F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.
- G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen-minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one-hour period unless more data points are required by the permit.
- H. All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

- I. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the DEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

## SECTION III

### **NOTIFICATION AND RECORD KEEPING**

\*\* All CEMS/COMS shall comply with this section.

- A. When requested to do so by an owner or operator, the DEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.
- B. Each facility which operates a CEMS/COMS shall notify the DEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 business days prior to testing. Performance test results shall be submitted to DEQ within thirty days after completion of testing.
- C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.
- D. Each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to DEQ (Attention: DEQ, Office of Air Quality, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter.
- E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on DEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from DEQ.
- F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years and is required to be maintained in such a condition that it can easily be audited by an inspector.
- G. Quarterly reports shall be used by DEQ to determine compliance with the permit.

## SECTION IV

### **QUALITY ASSURANCE/QUALITY CONTROL**

\*\* Only CEMS/COMS required by DEQ permit for reasons other than 40 C.F.R. § 60, 63 or 75 shall comply with this section.

- A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to DEQ (Attn.: DEQ, Office of Air Quality, CEM Coordinator). CEMS quality assurance procedures are defined in 40 C.F.R. § 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.
- B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from DEQ.
- C. Facilities responsible for one or more CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:
  - 1. Calibration of CEMS/COMS
    - a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked, and the time required to perform these checks and return to stable operation)
  - 2. Calibration drift determination and adjustment of CEMS/COMS
    - a. Out-of-control period determination
    - b. Steps of corrective action
  - 3. Preventive maintenance of CEMS/COMS
    - a. CEMS/COMS information
      - 1) Manufacture
      - 2) Model number
      - 3) Serial number
    - b. Scheduled activities (check list)
    - c. Spare part inventory
  - 4. Data recording, calculations, and reporting
  - 5. Accuracy audit procedures including sampling and analysis methods
  - 6. Program of corrective action for malfunctioning CEMS/COMS

- D. A Relative Accuracy Test Audit (RATA) shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 C.F.R. § 60 Appendix A and calculated in accordance with the applicable performance specification in 40 C.F.R. § 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 C.F.R. § 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the DEQ CEM Coordinator.

- E. Criteria for excessive audit inaccuracy.

### **RATA**

|   |   |
|---|---|
| All Pollutants except Carbon Monoxide       | > 20% Relative Accuracy                   |
| Carbon Monoxide                             | > 10% Relative Accuracy                   |
| All Pollutants except Carbon Monoxide       | > 10% of the Applicable Standard          |
| Carbon Monoxide                             | > 5% of the Applicable Standard           |
| Diluent (O <sub>2</sub> & CO <sub>2</sub> ) | > 1.0 % O <sub>2</sub> or CO <sub>2</sub> |
| Flow  | > 20% Relative Accuracy                   |

### **CGA**

|   |   |
|---|---|
| Pollutant                                   | > 15% of average audit value or<br>5 ppm difference |
| Diluent (O <sub>2</sub> & CO <sub>2</sub> ) | > 15% of average audit value or<br>5 ppm difference |

### **RAA**

|   |   |
|---|---|
| Pollutant                                   | > 15% of the three-run average<br>or > 7.5 % of the applicable standard |
| Diluent (O <sub>2</sub> & CO <sub>2</sub> ) | > 15% of the three-run average<br>or > 7.5 % of the applicable standard |

- F. If either the zero or span drift results exceed two times the applicable drift specification in 40 C.F.R. § 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.
- G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze, and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.



Appendix B: 40 C.F.R. Part 60, Subpart III—*Standards of Performance for Stationary  
Compression Ignition Internal Combustion Engines*

## § 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in [paragraphs \(a\)\(1\)](#) through [\(4\)](#) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of [§ 60.4208 of this subpart](#) are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under [40 CFR part 70](#) or [40 CFR part 71](#), provided you are not required to obtain a permit under [40 CFR 70.3\(a\)](#) or [40 CFR 71.3\(a\)](#) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in [40 CFR part 1068, subpart C](#), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the

appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37967](#), June 28, 2011; [86 FR 34357](#), June 29, 2021]

Emission Standards for Manufacturers

## **§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?**

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in [40 CFR 1039.101](#), [1039.102](#), [1039.104](#), [1039.105](#), [1039.107](#), and [1039.115](#) and [40 CFR part 1039, appendix I](#), as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in [40 CFR 1039.101](#), [40 CFR 1039.102](#), [40 CFR 1039.104](#), [40 CFR 1039.105](#), [40 CFR 1039.107](#), and [40 CFR 1039.115](#), as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the appropriate Tier 2 emission standards for new marine CI engines as described in [40 CFR part 1042, appendix I](#), for all pollutants, for the same displacement and rated power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in [40 CFR 1042.101](#), [40 CFR 1042.107](#), [40 CFR 1042.110](#), [40 CFR 1042.115](#), [40 CFR 1042.120](#), and [40 CFR 1042.145](#), as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in [paragraphs \(a\)](#) through [\(c\)](#) of this section, stationary non-emergency CI ICE identified in [paragraphs \(a\)](#) and [\(c\)](#) of this section may be certified to the provisions of [40 CFR part 1042](#) for commercial engines that are applicable for the engine's model year, displacement, power density, and maximum engine power if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in [paragraphs \(a\)](#) through [\(f\)](#) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in [paragraphs \(a\)](#) through [\(e\)](#) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

(h) Stationary CI ICE certified to the standards in [40 CFR part 1039](#) and equipped with auxiliary emission control devices (AECDs) as specified in [40 CFR 1039.665](#) must meet the Tier 1 certification emission standards for new nonroad CI engines in [40 CFR part 1039, appendix I](#), while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in [40 CFR 1039.665](#). When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37967](#), June 28, 2011; [81 FR 44219](#), July 7, 2016; [86 FR 34357](#), June 29, 2021]

## **§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?**

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in [paragraphs \(a\)\(1\)](#) through [\(2\)](#) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The Tier 2 emission standards for new nonroad CI engines for the appropriate rated power as described in [40 CFR part 1039, appendix I](#), for all pollutants and the smoke standards as specified in [40 CFR 1039.105](#) for model year 2007 engines; and

(ii) The certification emission standards for new nonroad CI engines in [40 CFR 1039.104](#), [40 CFR 1039.105](#), [40 CFR 1039.107](#), [40 CFR 1039.115](#), and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a rated power greater than or equal to 37 KW (50 HP), the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in [40 CFR part 1039, appendix I](#), for all pollutants and the smoke standards as specified in [40 CFR 1039.105](#) beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in [paragraphs \(b\)\(1\)](#) through [\(2\)](#) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the Tier 2 emission standards as described in [40 CFR part 1039, appendix I](#), for all pollutants and the smoke standards as specified in [40 CFR 1039.105](#).

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the appropriate Tier 2 emission standards for new marine CI engines as described in [40 CFR part 1042, appendix I](#), for all pollutants, for the same displacement and rated power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in [40 CFR 1042.101](#), [40 CFR 1042.107](#), [40 CFR 1042.115](#), [40 CFR 1042.120](#), and [40 CFR 1042.145](#), for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in [paragraphs \(a\)](#) through [\(d\)](#) of this section, stationary emergency CI ICE identified in [paragraphs \(a\)](#) and [\(c\)](#) of this section may be certified to the provisions of [40 CFR part 1042](#) for commercial engines that are applicable for the engine's model year, displacement, power density, and maximum engine power if the engines will be used solely in either or both of the locations identified in [paragraphs \(g\)\(1\)](#) and [\(2\)](#) of this section. Engines that would be subject to the Tier 4 standards in [40 CFR part 1042](#) that are used solely in either or both of the locations identified in [paragraphs \(g\)\(1\)](#) and [\(2\)](#) of this section may instead continue to be certified to the appropriate Tier 3 standards in [40 CFR part 1042](#).

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in [paragraphs \(a\)](#) through [\(f\)](#) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in [paragraphs \(a\)](#) through [\(f\)](#) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37968](#), June 28, 2011; [81 FR 44219](#), July 7, 2016; [86 FR 34358](#), June 29, 2021]

## **§ 60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?**

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in [§§ 60.4201](#) and [60.4202](#) during the certified emissions life of the engines.

[[76 FR 37968](#), June 28, 2011]

Emission Standards for Owners and Operators

## **§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?**

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the Tier 1 emission standards in [40 CFR part 1042, appendix I](#).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in [§ 60.4201](#) for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO<sub>x</sub> in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii)  $45 \cdot n^{-0.2}$  g/KW-hr ( $34 \cdot n^{-0.2}$  g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO<sub>x</sub> in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii)  $44 \cdot n^{-0.23}$  g/KW-hr ( $33 \cdot n^{-0.23}$  g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO<sub>x</sub> in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii)  $9.0 \cdot n^{-0.20}$  g/KW-hr ( $6.7 \cdot n^{-0.20}$  g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in [§ 60.4212](#).

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in [paragraphs \(a\) through \(d\)](#) of this section.

(f) Owners and operators of stationary CI ICE certified to the standards in [40 CFR part 1039](#) and equipped with AECs as specified in [40 CFR 1039.665](#) must meet the Tier 1 certification emission standards for new nonroad CI engines in [40 CFR part 1039, appendix I](#), while the



AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in [40 CFR 1039.665](#). When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37968](#), June 28, 2011; [81 FR 44219](#), July 7, 2016; [86 FR 34358](#), June 29, 2021]

## **§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?**

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the Tier 1 emission standards in [40 CFR part 1042, appendix I](#).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in [§ 60.4202](#), for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO<sub>x</sub> in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii)  $45 \cdot n^{-0.2}$  g/KW-hr ( $34 \cdot n^{-0.2}$  g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO<sub>x</sub> in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii)  $44 \cdot n^{-0.23}$  g/KW-hr ( $33 \cdot n^{-0.23}$  g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in [§ 60.4212](#).

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in [paragraphs \(a\)](#) through [\(e\)](#) of this section.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37969](#), June 28, 2011; [86 FR 34358](#), June 29, 2021]

## **§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?**

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in [§§ 60.4204](#) and [60.4205](#) over the entire life of the engine.

[[76 FR 37969](#), June 28, 2011]

Fuel Requirements for Owners and Operators

## **§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?**

(a) [Reserved]

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of [40 CFR 1090.305](#) for nonroad diesel fuel, except that

any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder must use diesel fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under [§ 60.4200\(d\)](#) are also exempt from the fuel requirements in this section.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37969](#), June 28, 2011; [78 FR 6695](#), Jan. 30, 2013; [85 FR 78463](#), Dec. 4, 2020]

Other Requirements for Owners and Operators

## **§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?**

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in [§§ 60.4201](#), [60.4202](#), [60.4204](#), and [60.4205](#), it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in [paragraphs \(a\)](#) through [\(g\)](#) of this section after the dates specified in [paragraphs \(a\)](#) through [\(g\)](#) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37969](#), June 28, 2011]

## **§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?**

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in [§ 60.4211](#).

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in [§ 60.4204](#), the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37969](#), June 28, 2011]

### **Compliance Requirements**

## **§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?**

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §§ 60.4201(a) through (c) and 60.4202(a), (b), and (d) using the certification procedures required in 40 CFR part 1039, subpart C, and must test their engines as specified in 40 CFR part 1039. For the purposes of this subpart, engines certified to the standards in Table 1 to this subpart shall be subject to the same certification procedures required for engines certified to the Tier 1 standards in 40 CFR part 1039, appendix I. For the purposes of this subpart, engines certified to the standards in Table 4 to this subpart shall be subject to the same certification procedures required for engines certified to the Tier 1 standards in 40 CFR part 1039, appendix I, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §§ 60.4201(d) and (e) and 60.4202(e) and (f) using the certification procedures required in 40 CFR part 1042, subpart C, and must test their engines as specified in 40 CFR part 1042.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135 and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The

engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of [40 CFR 1068.230](#) would apply to engines for export and the manufacturers must label such engines according to [40 CFR 1068.230](#).

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to [paragraphs \(c\)\(3\)\(i\)](#) through [\(iii\)](#) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in [40 CFR part 1039](#) or [1042](#), as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in [40 CFR part 1039](#) or [1042](#), as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to [40 CFR 1039.20](#).

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to [40 CFR 1068.230](#) and must be exported under the provisions of [40 CFR 1068.230](#).

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under [40 CFR part 1039](#) or [1042](#) for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking, and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in [paragraph \(d\)](#) of this section may meet the labeling requirements referred to in [paragraph \(c\)](#) of this section for stationary CI ICE by either adding a separate label containing the information required in [paragraph \(c\)](#) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in [§ 60.4202](#) but does not meet all the emission standards for non-emergency engines in [§ 60.4201](#). The label must be added according to the labeling requirements specified in [40 CFR 1039.135\(b\)](#). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of [§ 60.4201](#) or [§ 60.4202](#) by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of [40 CFR 1068.240](#) are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

(j) Stationary CI ICE manufacturers may equip their stationary CI internal combustion engines certified to the emission standards in [40 CFR part 1039](#) with AECDs for qualified emergency situations according to the requirements of [40 CFR 1039.665](#). Manufacturers of stationary CI ICE equipped with AECDs as allowed by [40 CFR 1039.665](#) must meet all the requirements in [40 CFR 1039.665](#) that apply to manufacturers. Manufacturers must document that the engine complies with the Tier 1 standard in [40 CFR part 1039, appendix I](#), when the AECD is activated. Manufacturers must provide any relevant testing, engineering analysis, or other information in sufficient detail to support such statement when applying for certification (including amending an existing certificate) of an engine equipped with an AECD as allowed by [40 CFR 1039.665](#).

(k) Manufacturers of any size may certify their emergency stationary CI internal combustion engines under this section using assigned deterioration factors established by EPA, consistent with [40 CFR 1039.240](#) and [1042.240](#).

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37969](#), June 28, 2011; [81 FR 44219](#), July 7, 2016; [86 FR 34358](#), June 29, 2021]



## **§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?**

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under [paragraph \(g\)](#) of this section:

- (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
- (2) Change only those emission-related settings that are permitted by the manufacturer; and
- (3) Meet the requirements of [40 CFR part 1068](#), as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in [§ 60.4204\(a\)](#) or [§ 60.4205\(a\)](#), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in [§ 60.4205\(c\)](#), you must demonstrate compliance according to one of the methods specified in [paragraphs \(b\)\(1\) through \(5\)](#) of this section.

- (1) Purchasing an engine certified to emission standards for the same model year and maximum engine power as described in [40 CFR parts 1039 and 1042](#), as applicable. The engine must be installed and configured according to the manufacturer's specifications.
- (2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
- (3) Keeping records of engine manufacturer data indicating compliance with the standards.
- (4) Keeping records of control device vendor data indicating compliance with the standards.
- (5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in [§ 60.4212](#), as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in [§ 60.4204\(b\)](#) or [§ 60.4205\(b\)](#), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in [§ 60.4205\(c\)](#), you must comply by purchasing an engine certified to the emission standards in [§ 60.4204\(b\)](#), or [§ 60.4205\(b\)](#) or [\(c\)](#), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured



according to the manufacturer's emission-related specifications, except as permitted in [paragraph \(g\)](#) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in [§ 60.4204\(c\)](#) or [§ 60.4205\(d\)](#), you must demonstrate compliance according to the requirements specified in [paragraphs \(d\)\(1\)](#) through [\(3\)](#) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in [§ 60.4213](#).

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in [paragraphs \(d\)\(2\)\(i\)](#) through [\(v\)](#) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO<sub>x</sub> and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO<sub>x</sub> and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in [§ 60.4213](#).

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in [§ 60.4204\(e\)](#) or [§ 60.4205\(f\)](#), you must demonstrate compliance according to one of the methods specified in [paragraphs \(e\)\(1\)](#) or [\(2\)](#) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in [§ 60.4204\(e\)](#) or [§ 60.4205\(f\)](#), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in [§ 60.4212](#) or [§ 60.4213](#), as appropriate.

The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in [paragraphs \(f\)\(1\)](#) through [\(3\)](#) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in [paragraphs \(f\)\(1\)](#) through [\(3\)](#) of this section, is prohibited. If you do not operate the engine according to the requirements in [paragraphs \(f\)\(1\)](#) through [\(3\)](#) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in [paragraphs \(f\)\(2\)\(i\)](#) through [\(iii\)](#) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by [paragraph \(f\)\(3\)](#) of this section counts as part of the 100 hours per calendar year allowed by this [paragraph \(f\)\(2\)](#).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see [§ 60.17](#)), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in [paragraph \(f\)\(2\)](#) of this section. Except as provided in [paragraph \(f\)\(3\)\(i\)](#) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a

facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing

emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

(h) The requirements for operators and prohibited acts specified in [40 CFR 1039.665](#) apply to owners or operators of stationary CI ICE equipped with AECDs for qualified emergency situations as allowed by [40 CFR 1039.665](#).

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37970](#), June 28, 2011; [78 FR 6695](#), Jan. 30, 2013; [81 FR 44219](#), July 7, 2016; [86 FR 34359](#), June 29, 2021]

Testing Requirements for Owners and Operators

## **§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?**

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to [paragraphs \(a\)](#) through [\(e\)](#) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in [40 CFR part 1039, subpart F](#), for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to [40 CFR part 1042, subpart F](#), for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder. Alternatively, stationary CI ICE that are complying with Tier 2 or Tier 3 emission standards as described in [40 CFR part 1039, appendix I](#), or with Tier 2 emission standards as

described in [40 CFR part 1042, appendix I](#), may follow the testing procedures specified in [§ 60.4213](#), as appropriate.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in [40 CFR part 1039](#) must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in [40 CFR 1039.101\(e\)](#) and [40 CFR 1039.102\(g\)\(1\)](#), except as specified in [40 CFR 1039.104\(d\)](#). This requirement starts when NTE requirements take effect for nonroad diesel engines under [40 CFR part 1039](#).

(c) Exhaust emissions from stationary CI ICE subject to Tier 2 or Tier 3 emission standards as described in [40 CFR part 1039, appendix I](#), or Tier 2 emission standards as described in [40 CFR part 1042, appendix I](#), must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \text{ (Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in [40 CFR part 1039](#) or [1042](#), as applicable.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in [§ 60.4204\(a\)](#), [§ 60.4205\(a\)](#), or [§ 60.4205\(c\)](#) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in [§ 60.4204\(a\)](#), [§ 60.4205\(a\)](#), or [§ 60.4205\(c\)](#), determined from the equation in [paragraph \(c\)](#) of this section.

Where:

STD = The standard specified for that pollutant in [§ 60.4204\(a\)](#), [§ 60.4205\(a\)](#), or [§ 60.4205\(c\)](#).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in [§ 60.4204\(a\)](#), [§ 60.4205\(a\)](#), or [§ 60.4205\(c\)](#) may follow the testing procedures specified in [§ 60.4213](#), as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in [40 CFR part 1042](#) must not exceed the NTE standards for the same model year and maximum engine power as required in [40 CFR 1042.101\(c\)](#).

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37971](#), June 28, 2011; [86 FR 34359](#), June 29, 2021]

## **§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal**

## combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to [paragraphs \(a\)](#) through [\(f\)](#) of this section.

- (a) Each performance test must be conducted according to the requirements in [§ 60.8](#) and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.
- (b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in [§ 60.8\(c\)](#).
- (c) You must conduct three separate test runs for each performance test required in this section, as specified in [§ 60.8\(f\)](#). Each test run must last at least 1 hour.
- (d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in [paragraphs \(d\)\(1\)](#) through [\(3\)](#) of this section.
  - (1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 2})$$

Where:

$C_i$  = concentration of  $\text{NO}_x$  or PM at the control device inlet,

$C_o$  = concentration of  $\text{NO}_x$  or PM at the control device outlet, and

$R$  = percent reduction of  $\text{NO}_x$  or PM emissions.

- (2) You must normalize the  $\text{NO}_x$  or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen ( $\text{O}_2$ ) using Equation 3 of this section, or an equivalent percent carbon dioxide ( $\text{CO}_2$ ) using the procedures described in [paragraph \(d\)\(3\)](#) of this section.

$$C_{\text{adj}} = C_d \frac{5.9}{20.9 - \% \text{ O}_2} \quad (\text{Eq. 3})$$

Where:

$C_{\text{adj}}$  = Calculated  $\text{NO}_x$  or PM concentration adjusted to 15 percent  $\text{O}_2$ .

$C_d$  = Measured concentration of  $\text{NO}_x$  or PM, uncorrected.

5.9 = 20.9 percent  $\text{O}_2$  – 15 percent  $\text{O}_2$ , the defined  $\text{O}_2$  correction value, percent.

$\% \text{O}_2$  = Measured  $\text{O}_2$  concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent  $\text{O}_2$  and  $\text{CO}_2$  concentration is measured in lieu of  $\text{O}_2$  concentration measurement, a  $\text{CO}_2$  correction factor is needed. Calculate the  $\text{CO}_2$  correction factor as described in [paragraphs \(d\)\(3\)\(i\)](#) through [\(iii\)](#) of this section.

(i) Calculate the fuel-specific  $F_o$  value for the fuel burned during the test using values obtained from Method 19, [Section 5.2](#), and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 4})$$

Where:

$F_o$  = Fuel factor based on the ratio of  $\text{O}_2$  volume to the ultimate  $\text{CO}_2$  volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is  $\text{O}_2$ , percent/100.

$F_d$  = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3/\text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ ).

$F_c$  = Ratio of the volume of  $\text{CO}_2$  produced to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3/\text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ ).

(ii) Calculate the  $\text{CO}_2$  correction factor for correcting measurement data to 15 percent  $\text{O}_2$ , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 5})$$

Where:

$X_{CO_2}$  = CO<sub>2</sub> correction factor, percent.

5.9 = 20.9 percent O<sub>2</sub>–15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent.

(iii) Calculate the NO<sub>x</sub> and PM gas concentrations adjusted to 15 percent O<sub>2</sub> using CO<sub>2</sub> as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 6})$$

Where:

$C_{adj}$  = Calculated NO<sub>x</sub> or PM concentration adjusted to 15 percent O<sub>2</sub>.

$C_d$  = Measured concentration of NO<sub>x</sub> or PM, uncorrected.

%CO<sub>2</sub> = Measured CO<sub>2</sub> concentration, dry basis, percent.

(e) To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \quad (\text{Eq. 7})$$

Where:

ER = Emission rate in grams per KW-hour.

$C_d$  = Measured NO<sub>x</sub> concentration in ppm.

$1.912 \times 10^{-3}$  = Conversion constant for ppm NO<sub>x</sub> to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.



KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{KW\text{-hour}} \quad (\text{Eq. 8})$$

Where:

ER = Emission rate in grams per KW-hour.

$C_{adj}$  = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37971](#), June 28, 2011]

Notification, Reports, and Records for Owners and Operators

## **§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?**

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of [paragraphs \(a\)\(1\)](#) and [\(2\)](#) of this section.

(1) Submit an initial notification as required in [§ 60.7\(a\)\(1\)](#). The notification must include the information in [paragraphs \(a\)\(1\)\(i\)](#) through [\(v\)](#) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in [paragraphs \(a\)\(2\)\(i\)](#) through [\(iv\)](#) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 60.4211\(f\)\(2\)\(ii\)](#) and [\(iii\)](#) or that operates for the purposes specified in [§ 60.4211\(f\)\(3\)\(i\)](#), you must submit an annual report according to the requirements in [paragraphs \(d\)\(1\)](#) through [\(3\)](#) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in [§ 60.4211\(f\)\(2\)\(ii\)](#) and [\(iii\)](#), including the date, start time, and end time for engine operation for the purposes specified in [§ 60.4211\(f\)\(2\)\(ii\)](#) and [\(iii\)](#).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in [§ 60.4211\(f\)\(2\)\(ii\)](#) and [\(iii\)](#).

(vii) Hours spent for operation for the purposes specified in [§ 60.4211\(f\)\(3\)\(i\)](#), including the date, start time, and end time for engine operation for the purposes specified in [§ 60.4211\(f\)\(3\)\(i\)](#). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in [§ 60.4](#).

(e) Owners or operators of stationary CI ICE equipped with AECDs pursuant to the requirements of [40 CFR 1039.665](#) must report the use of AECDs as required by [40 CFR 1039.665\(e\)](#).

[[71 FR 39172](#), July 11, 2006, as amended at [78 FR 6696](#), Jan. 30, 2013; [81 FR 44219](#), July 7, 2016]

#### Special Requirements

### **§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?**

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in [§§ 60.4202](#) and [60.4205](#).

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in [§ 60.4207](#).

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO<sub>x</sub> in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii)  $45 \cdot n^{-0.2}$  g/KW-hr ( $34 \cdot n^{-0.2}$  g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO<sub>x</sub> in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii)  $44 \cdot n^{-0.23}$  g/KW-hr ( $33 \cdot n^{-0.23}$  g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37971](#), June 28, 2011]

## **§ 60.4216 What requirements must I meet for engines used in Alaska?**

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to [40 CFR part 69](#) to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in [paragraph \(c\)](#) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in remote areas of Alaska may meet the requirements of this subpart by manufacturing and installing engines meeting the Tier 2 or Tier 3 emission standards described in [40 CFR part 1042](#) for the same model year, displacement, and maximum engine power, as appropriate, rather than the otherwise applicable requirements of [40 CFR part 1039](#), as indicated in [§§ 60.4201\(f\)](#) and [60.4202\(g\)](#).

(c) Manufacturers, owners, and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§ [60.4202](#) and [60.4205](#), and not those for non-emergency engines in §§ [60.4201](#) and [60.4204](#), except that for 2014 model year and later nonemergency CI ICE, the owner or operator of any such engine must have that engine certified as meeting at least the Tier 3 PM standards identified in appendix I of [40 CFR part 1039](#) or in [40 CFR 1042.101](#).

(d) The provisions of [§ 60.4207](#) do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in remote areas of Alaska.

(e) The provisions of [§ 60.4208\(a\)](#) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and [§ 60.4207](#) do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in remote areas of Alaska from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in [40 CFR 279.11](#).

[[76 FR 37971](#), June 28, 2011, as amended at [81 FR 44219](#), July 7, 2016; [86 FR 34359](#), June 29, 2021]

## **§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?**

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in [§ 60.4204](#) or [§ 60.4205](#) using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[[76 FR 37972](#), June 28, 2011]

### **General Provisions**

## **§ 60.4218 What parts of the General Provisions apply to me?**

Table 8 to this subpart shows which parts of the General Provisions in §§ [60.1](#) through [60.19](#) apply to you.

## Definitions

### § 60.4219 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in [subpart A of this part](#).

***Alaska Railbelt Grid*** means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

***Certified emissions life*** means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in [40 CFR 1039.101\(g\)](#). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in [40 CFR 1042.101\(e\)](#).

***Combustion turbine*** means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

***Compression ignition*** means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

***Date of manufacture*** means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

***Diesel fuel*** means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

***Diesel particulate filter*** means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

***Emergency stationary internal combustion engine*** means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in [§ 60.4211\(f\)](#) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in [§ 60.4211\(f\)](#), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in [§ 60.4211\(f\)](#).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in [§ 60.4211\(f\)\(2\)\(ii\)](#) or [\(iii\)](#) and [§ 60.4211\(f\)\(3\)\(i\)](#).

***Engine manufacturer*** means the manufacturer of the engine. See the definition of “manufacturer” in this section.

***Fire pump engine*** means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

***Freshly manufactured engine*** means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

***Installed*** means the engine is placed and secured at the location where it is intended to be operated.

***Manufacturer*** has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

***Maximum engine power*** means maximum engine power as defined in [40 CFR 1039.801](#).

**Model year** means the calendar year in which an engine is manufactured (see “date of manufacture”), except as follows:

- (1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see “date of manufacture”), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.
- (2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see “date of manufacture”).

**Other internal combustion engine** means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

**Reciprocating internal combustion engine** means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

**Remote areas of Alaska** means areas of Alaska that meet either paragraph (1) or (2) of this definition.

- (1) Areas of Alaska that are not accessible by the Federal Aid Highway System (FAHS).
- (2) Areas of Alaska that meet all of the following criteria:
  - (i) The only connection to the FAHS is through the Alaska Marine Highway System, or the stationary CI ICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.
  - (ii) At least 10 percent of the power generated by the stationary CI ICE on an annual basis is used for residential purposes.
  - (iii) The generating capacity of the source is less than 12 megawatts, or the stationary CI ICE is used exclusively for backup power for renewable energy.

**Rotary internal combustion engine** means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

**Spark ignition** means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less



than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

**Stationary internal combustion engine** means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at [40 CFR 1068.30](#) (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

**Subpart** means [40 CFR part 60, subpart IIII](#).

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37972](#), June 28, 2011; [78 FR 6696](#), Jan. 30, 2013; [81 FR 44219](#), July 7, 2016; [86 FR 34360](#), June 29, 2021]

## Table 1 to Subpart IIII of Part 60 - Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in [§§ 60.4201\(b\)](#), [60.4202\(b\)](#), [60.4204\(a\)](#), and [60.4205\(a\)](#), you must comply with the following emission standards]

| Maximum engine power      | Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr) |           |                 |            |             |
|---------------------------|--|-----------|-----------------|------------|-------------|
|                           | NMHC + NO <sub>x</sub>   | HC        | NO <sub>x</sub> | CO         | PM          |
| KW<8 (HP<11)              | 10.5 (7.8)   |           |                 | 8.0 (6.0)  | 1.0 (0.75)  |
| 8≤KW<19<br>(11≤HP<25)     | 9.5 (7.1)  |           |                 | 6.6 (4.9)  | 0.80 (0.60) |
| 19≤KW<37<br>(25≤HP<50)    | 9.5 (7.1)  |           |                 | 5.5 (4.1)  | 0.80 (0.60) |
| 37≤KW<56<br>(50≤HP<75)    |  |           | 9.2 (6.9)       |            |             |
| 56≤KW<75<br>(75≤HP<100)   |  |           | 9.2 (6.9)       |            |             |
| 75≤KW<130<br>(100≤HP<175) |  |           | 9.2 (6.9)       |            |             |
| 130≤KW<225                |  | 1.3 (1.0) | 9.2 (6.9)       | 11.4 (8.5) | 0.54 (0.40) |

| Maximum engine power       | Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr) |           |                 |            |             |
|----------------------------|--|-----------|-----------------|------------|-------------|
|                            | NMHC + NO <sub>x</sub>   | HC        | NO <sub>x</sub> | CO         | PM          |
| (175≤HP<300)               |  |           |                 |            |             |
| 225≤KW<450<br>(300≤HP<600) |  | 1.3 (1.0) | 9.2 (6.9)       | 11.4 (8.5) | 0.54 (0.40) |
| 450≤KW≤560<br>(600≤HP≤750) |  | 1.3 (1.0) | 9.2 (6.9)       | 11.4 (8.5) | 0.54 (0.40) |
| KW>560<br>(HP>750)         |  | 1.3 (1.0) | 9.2 (6.9)       | 11.4 (8.5) | 0.54 (0.40) |

## Table 2 to Subpart IIII of Part 60 - Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in [§ 60.4202\(a\)\(1\)](#), you must comply with the following emission standards]

| Engine power           | Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr) |                        |           |             |
|------------------------|---|------------------------|-----------|-------------|
|                        | Model year(s)   | NO <sub>x</sub> + NMHC | CO        | PM          |
| KW<8 (HP<11)           | 2008 +  | 7.5 (5.6)              | 8.0 (6.0) | 0.40 (0.30) |
| 8≤KW<19<br>(11≤HP<25)  | 2008 +  | 7.5 (5.6)              | 6.6 (4.9) | 0.40 (0.30) |
| 19≤KW<37<br>(25≤HP<50) | 2008 +  | 7.5 (5.6)              | 5.5 (4.1) | 0.30 (0.22) |

## Table 3 to Subpart IIII of Part 60 - Certification Requirements for Stationary Fire Pump Engines

As stated in [§ 60.4202\(d\)](#), you must certify new stationary fire pump engines beginning with the following model years:

| <b>Engine power</b>        | <b>Starting model year engine manufacturers must certify new stationary fire pump engines according to § 60.4202(d)<sup>1</sup></b> |
|----------------------------|---|
| KW<75<br>(HP<100)          | 2011  |
| 75≤KW<130<br>(100≤HP<175)  | 2010  |
| 130≤KW≤560<br>(175≤HP≤750) | 2009  |
| KW>560<br>(HP>750)         | 2008  |

<sup>1</sup>Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[[71 FR 39172](#), July 11, 2006, as amended at [76 FR 37972](#), June 28, 2011]

## Table 4 to Subpart IIII of Part 60 - Emission Standards for Stationary Fire Pump Engines

[As stated in [§§ 60.4202\(d\)](#) and [60.4205\(c\)](#), you must comply with the following emission standards for stationary fire pump engines]

| <b>Maximum engine power</b> | <b>Model year(s)</b> | <b>NMHC + NO<sub>x</sub></b> | <b>CO</b> | <b>PM</b>   |
|-----------------------------|----------------------|------------------------------|-----------|-------------|
| KW<8 (HP<11)                | 2010 and earlier     | 10.5 (7.8)                   | 8.0 (6.0) | 1.0 (0.75)  |
|                             | 2011 +               | 7.5 (5.6)                    |           | 0.40 (0.30) |
| 8≤KW<19 (11≤HP<25)          | 2010 and earlier     | 9.5 (7.1)                    | 6.6 (4.9) | 0.80 (0.60) |
|                             | 2011 +               | 7.5 (5.6)                    |           | 0.40 (0.30) |
| 19≤KW<37 (25≤HP<50)         | 2010 and earlier     | 9.5 (7.1)                    | 5.5 (4.1) | 0.80 (0.60) |
|                             | 2011 +               | 7.5 (5.6)                    |           | 0.30 (0.22) |
| 37≤KW<56 (50≤HP<75)         | 2010 and earlier     | 10.5 (7.8)                   | 5.0 (3.7) | 0.80 (0.60) |
|                             | 2011 + <sup>1</sup>  | 4.7 (3.5)                    |           | 0.40 (0.30) |
| 56≤KW<75 (75≤HP<100)        | 2010 and earlier     | 10.5 (7.8)                   | 5.0 (3.7) | 0.80 (0.60) |
|                             | 2011 + <sup>1</sup>  | 4.7 (3.5)                    |           | 0.40 (0.30) |
| 75≤KW<130 (100≤HP<175)      | 2009 and earlier     | 10.5 (7.8)                   | 5.0 (3.7) | 0.80 (0.60) |

| Maximum engine power    | Model year(s)       | NMHC + NO <sub>x</sub> | CO        | PM          |
|-------------------------|---------------------|------------------------|-----------|-------------|
|                         | 2010 + <sup>2</sup> | 4.0 (3.0)              |           | 0.30 (0.22) |
| 130≤KW<225 (175≤HP<300) | 2008 and earlier    | 10.5 (7.8)             | 3.5 (2.6) | 0.54 (0.40) |
|                         | 2009 + <sup>3</sup> | 4.0 (3.0)              |           | 0.20 (0.15) |
| 225≤KW<450 (300≤HP<600) | 2008 and earlier    | 10.5 (7.8)             | 3.5 (2.6) | 0.54 (0.40) |
|                         | 2009 + <sup>3</sup> | 4.0 (3.0)              |           | 0.20 (0.15) |
| 450≤KW≤560 (600≤HP≤750) | 2008 and earlier    | 10.5 (7.8)             | 3.5 (2.6) | 0.54 (0.40) |
|                         | 2009 +              | 4.0 (3.0)              |           | 0.20 (0.15) |
| KW>560 (HP>750)         | 2007 and earlier    | 10.5 (7.8)             | 3.5 (2.6) | 0.54 (0.40) |
|                         | 2008 +              | 6.4 (4.8)              |           | 0.20 (0.15) |

<sup>1</sup> For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

<sup>2</sup> For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

<sup>3</sup> In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

## Table 5 to Subpart IIII of Part 60 - Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in [§ 60.4210\(f\)](#) and the recordkeeping requirements in [§ 60.4214\(b\)](#) for new emergency stationary CI ICE beginning in the following model years:]

| Engine power          | Starting model year |
|-----------------------|---------------------|
| 19≤KW<56 (25≤HP<75)   | 2013                |
| 56≤KW<130 (75≤HP<175) | 2012                |
| KW≥130 (HP≥175)       | 2011                |

## Table 6 to Subpart IIII of Part 60 - Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in [§ 60.4210\(g\)](#), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

| Mode No. | Engine speed <sup>1</sup> | Torque (percent) <sup>2</sup> | Weighting factors |
|----------|---------------------------|-------------------------------|-------------------|
| 1        | Rated                     | 100                           | 0.30              |
| 2        | Rated                     | 75                            | 0.50              |
| 3        | Rated                     | 50                            | 0.20              |

<sup>1</sup> Engine speed:  $\pm 2$  percent of point.

<sup>2</sup> Torque: NFPA certified nameplate HP for 100 percent point. All points should be  $\pm 2$  percent of engine percent load value.

## Table 7 to Subpart IIII of Part 60 - Requirements for Performance Tests for Stationary CI ICE With a Displacement of $\geq 30$ Liters per Cylinder

As stated in [§ 60.4213](#), you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of  $\geq 30$  liters per cylinder:

| Each   | Complying with the requirement to                          | You must   | Using | According to the following requirements  |
|--|--|--|-------|--|
| 1. Stationary CI internal combustion engine with a displacement of $\geq 30$ liters per cylinder | a. Reduce NO <sub>x</sub> emissions by 90 percent or more; | i. Select the sampling port location and number/location of traverse points at the inlet and outlet of the control device; |       | (a) For NO <sub>x</sub> , O <sub>2</sub> , and moisture measurement, ducts $\leq 6$ inches in diameter may be sampled at a single point located at the duct centroid and ducts $> 6$ and $\leq 12$ inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is $> 12$ inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of <a href="#">Section 11.1.1</a> of <a href="#">Method 1 of 40 CFR</a> |

| Each | Complying with the requirement to                                  | You must   | Using   | According to the following requirements   |
|------|--|--|---|---|
|      |  |  |   | <p><a href="#">part 60, appendix A-1</a>, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to <a href="#">Section 8.1.2</a> of Method 7E of <a href="#">40 CFR part 60, appendix A-4</a>.</p> <p>(b) Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for NO<sub>x</sub> concentration.</p> <p>(c) Measurements to determine moisture content must be made at the same time as the measurements for NO<sub>x</sub> concentration.</p> <p>(d) NO<sub>x</sub> concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</p> <p>(a) For NO<sub>x</sub>, O<sub>2</sub>, and moisture measurement, ducts ≤6 inches in diameter may be</p> |
|      |  | <p>ii. Measure O<sub>2</sub> at the inlet and outlet of the control device;</p> <p>iii. If necessary, measure moisture content at the inlet and outlet of the control device; and</p> <p>iv. Measure NO<sub>x</sub> at the inlet and outlet of the control device.</p> | <p>(1) Method 3, 3A, or 3B of <a href="#">40 CFR part 60, appendix A-2</a></p> <p>(2) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a>, Method 320 of <a href="#">40 CFR part 63, appendix A</a>, or ASTM D 6348-03 (incorporated by reference, see <a href="#">§ 60.17</a>)</p> <p>(3) Method 7E of <a href="#">40 CFR part 60, appendix A-4</a>, Method 320 of <a href="#">40 CFR part 63, appendix A</a>, or ASTM D 6348-03 (incorporated by reference, see <a href="#">§ 60.17</a>)</p> |   |
|      | b. Limit the concentration of NO <sub>x</sub> in the stationary CI | i. Select the sampling port location and number/location of  |   |   |

| Each | Complying with the requirement to   | You must  | Using   | According to the following requirements   |
|------|-------------------------------------|---|---|---|
|      | internal combustion engine exhaust. | <p>traverse points at the exhaust of the stationary internal combustion engine;</p> <p>ii. Determine the O<sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;</p> <p>iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port</p> | <p>(1) Method 3, 3A, or 3B of <a href="#">40 CFR part 60, appendix A-2</a></p> <p>(2) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a>, Method 320 of <a href="#">40 CFR part 63, appendix A</a>, or ASTM D 6348-</p> | <p>sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of <a href="#">Section 11.1.1</a> of Method 1 of <a href="#">40 CFR part 60, appendix A-1</a>, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to <a href="#">Section 8.1.2</a> of Method 7E of <a href="#">40 CFR part 60, appendix A-4</a>.</p> <p>(b) Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurement for NO<sub>x</sub> concentration.</p> <p>(c) Measurements to determine moisture content must be made at the same time as the measurement for NO<sub>x</sub> concentration.</p> |

| Each | Complying with the requirement to                              | You must   | Using  | According to the following requirements   |
|------|--|--|--|---|
|      |  | location; and  | 03 (incorporated by reference, see <a href="#">§ 60.17</a> )   |   |
|      |  | iv. Measure NO <sub>x</sub> at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device. | (3) Method 7E of <a href="#">40 CFR part 60, appendix A-4</a> , Method 320 of <a href="#">40 CFR part 63, appendix A</a> , or ASTM D 6348-03 (incorporated by reference, see <a href="#">§ 60.17</a> ) | (d) NO <sub>x</sub> concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |
|      | c. Reduce PM emissions by 60 percent or more                   | i. Select the sampling port location and the number of traverse points;  | (1) Method 1 or 1A of <a href="#">40 CFR part 60, appendix A-1</a>   | (a) Sampling sites must be located at the inlet and outlet of the control device.   |
|      |  | ii. Measure O <sub>2</sub> at the inlet and outlet of the control device;  | (2) Method 3, 3A, or 3B of <a href="#">40 CFR part 60, appendix A-2</a>  | (b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for PM concentration.                                  |
|      |  | iii. If necessary, measure moisture content at the inlet and outlet of the control device; and   | (3) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a>   | (c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.  |
|      |  | iv. Measure PM at the inlet and outlet of the control device.  | (4) Method 5 of <a href="#">40 CFR part 60, appendix A-3</a>   | (d) PM concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.              |
|      | d. Limit the concentration of PM in the stationary CI internal | i. Select the sampling port location and the number of traverse points;  | (1) Method 1 or 1A of <a href="#">40 CFR part 60, appendix A-1</a>   | (a) If using a control device, the sampling site must be located at the outlet of the control device.   |



| Each | Complying with the requirement to | You must   | Using   | According to the following requirements  |
|------|-----------------------------------|--|---|--|
|      | combustion engine exhaust         | ii. Determine the O <sub>2</sub> concentration of the stationary internal combustion engine exhaust at the sampling port location;<br>iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and<br>iv. Measure PM at the exhaust of the stationary internal combustion engine. | (2) Method 3, 3A, or 3B of <a href="#">40 CFR part 60, appendix A-2</a><br><br>(3) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a><br><br>(4) Method 5 of <a href="#">40 CFR part 60, appendix A-3</a> | (b) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for PM concentration.<br><br>(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.<br><br>(d) PM concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |

[[79 FR 11251](#), Feb. 27, 2014]

## Table 8 to Subpart IIII of Part 60 - Applicability of General Provisions to Subpart IIII

[As stated in [§ 60.4218](#), you must comply with the following applicable General Provisions:]

| General Provisions citation | Subject of citation                             | Applies to subpart | Explanation   |
|-----------------------------|---|--------------------|---|
| § 60.1                      | General applicability of the General Provisions | Yes                |   |
| § 60.2                      | Definitions                                     | Yes                | Additional terms defined in <a href="#">§ 60.4219</a> . |
| § 60.3                      | Units and abbreviations                         | Yes                |   |
| § 60.4                      | Address   | Yes                |   |

| General Provisions citation | Subject of citation                                    | Applies to subpart | Explanation   |
|-----------------------------|--|--------------------|---|
| § 60.5                      | Determination of construction or modification          | Yes                |   |
| § 60.6                      | Review of plans  | Yes                |   |
| § 60.7                      | Notification and Recordkeeping                         | Yes                | Except that <a href="#">§ 60.7</a> only applies as specified in <a href="#">§ 60.4214(a)</a> .  |
| § 60.8                      | Performance tests                                      | Yes                | Except that <a href="#">§ 60.8</a> only applies to stationary CI ICE with a displacement of ( $\geq$ 30 liters per cylinder and engines that are not certified. |
| § 60.9                      | Availability of information                            | Yes                |   |
| § 60.10                     | State Authority  | Yes                |   |
| § 60.11                     | Compliance with standards and maintenance requirements | No                 | Requirements are specified in subpart IIII.   |
| § 60.12                     | Circumvention  | Yes                |   |
| § 60.13                     | Monitoring requirements                                | Yes                | Except that <a href="#">§ 60.13</a> only applies to stationary CI ICE with a displacement of ( $\geq$ 30 liters per cylinder.                                   |
| § 60.14                     | Modification   | Yes                |   |
| § 60.15                     | Reconstruction   | Yes                |   |
| § 60.16                     | Priority list  | Yes                |   |
| § 60.17                     | Incorporations by reference                            | Yes                |   |
| § 60.18                     | General control device requirements                    | No                 |   |
| § 60.19                     | General notification and reporting requirements        | Yes                |   |

Appendix C: 40 C.F.R. Part 63, Subpart JJJJ—*National Emission Standards for Hazardous Air  
Pollutants: Paper and Other Web Coating*

## **§ 63.3280 What is in this subpart?**

This subpart describes the actions you must take to reduce emissions of organic hazardous air pollutants (HAP) from paper and other web coating operations. This subpart establishes emission standards for web coating lines and specifies what you must do to comply if you own or operate a facility with web coating lines that is a major source of HAP. Certain requirements apply to all who are subject to this subpart; others depend on the means you use to comply with an emission standard.

## **§ 63.3290 Does this subpart apply to me?**

The provisions of this subpart apply to each new and existing facility that is a major source of HAP, as defined in [§ 63.2](#), at which web coating lines are operated.

## **§ 63.3300 Which of my emission sources are affected by this subpart?**

The affected source subject to this subpart is the collection of all web coating lines at your facility. This includes web coating lines engaged in the coating of metal webs that are used in flexible packaging, and web coating lines engaged in the coating of fabric substrates for use in pressure sensitive tape and abrasive materials. Web coating lines specified in [paragraphs \(a\) through \(g\)](#) of this section are not part of the affected source of this subpart.

- (a) Any web coating line that is stand-alone equipment under [subpart KK of this part](#) (National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Printing and Publishing Industry) which the owner or operator includes in the affected source under subpart KK.
- (b) Any web coating line that is a product and packaging rotogravure or wide-web flexographic press under [subpart KK of this part](#) (NESHAP for the Printing and Publishing Industry) which is included in the affected source under subpart KK.
- (c) Web coating in lithography, screenprinting, letterpress, and narrow-web flexographic printing processes.
- (d) Any web coating line subject to [subpart EE of this part](#) (NESHAP for Magnetic Tape Manufacturing Operations).
- (e) Any web coating line subject to [subpart SSSS of this part](#) (NESHAP for Surface Coating of Metal Coil).
- (f) Any web coating line subject to [subpart OOOO of this part](#) (NESHAP for the Printing, Coating, and Dyeing of Fabrics and Other Textiles). This includes any web coating line that coats both a paper or other web substrate and a fabric or other textile substrate, except for a fabric substrate used for pressure sensitive tape and abrasive materials.

(g) Any web coating line that is defined as research or laboratory equipment in [§ 63.3310](#).

(h) Any web coating line that coats both paper or a web, and another substrate such as fabric, may comply with the subpart of this part that applies to the predominant activity conducted on the affected source. Predominant activity for this subpart is 90 percent of the mass of substrate coated during the compliance period. For example, a web coating line that coats 90 percent or more of a paper substrate, and 10 percent or less of a fabric or other textile substrate, would be subject to this subpart and not [subpart OOOO of this part](#). You may use data for any reasonable time period of at least one year in determining the relative amount of coating activity, as long as they are expected to represent the way the source will continue to operate in the future. You must demonstrate and document the predominant activity annually.

(i) Any web coating line subject to this part that is modified to include printing activities, may continue to demonstrate compliance with this part, in lieu of demonstrating compliance with [subpart KK of this part](#). Any web coating line with product and packaging rotogravure print station(s) and/or a wide-web flexographic print station(s) that is subject to this subpart may elect to continue demonstrating compliance with this subpart in lieu of [subpart KK of this part](#), if the mass of the materials applied to the line's print station(s) in a month ever exceed 5 percent of the total mass of materials applied onto the line during the same period.

(j) If all of the subject web coating lines at your facility utilize non-HAP coatings, you can become exempt from the reporting requirements of this subpart, provided you submit a one-time report as required in [§ 63.3370\(s\)](#) to your permitting authority documenting the use of only non-HAP coatings.

[[67 FR 72341](#), Dec. 4, 2002, as amended at [71 FR 29805](#), May 24, 2006; [85 FR 41295](#), July 9, 2020]

## § 63.3310 What definitions are used in this subpart?

All terms used in this subpart that are not defined in this section have the meaning given to them in the Clean Air Act (CAA) and in [subpart A of this part](#).

***Always-controlled work station*** means a work station associated with a dryer from which the exhaust is delivered to a control device with no provision for the dryer exhaust to bypass the control device unless there is an interlock to interrupt and prevent continued coating during a bypass. Sampling lines for analyzers, relief valves needed for safety purposes, and periodic cycling of exhaust dampers to ensure safe operation are not considered bypass lines.

***Applied*** means, for the purposes of this subpart, the amount of organic HAP, coating material, or coating solids (as appropriate for the emission standards in [§ 63.3320\(b\)](#)) used by the affected source during the compliance period.

***As-applied*** means the condition of a coating at the time of application to a substrate, including any added solvent.

***As-purchased*** means the condition of a coating as delivered to the user.

***Capture efficiency*** means the fraction of all organic HAP emissions generated by a process that is delivered to a control device, expressed as a percentage.

***Capture system*** means a hood, enclosed room, or other means of collecting organic HAP emissions into a closed-vent system that exhausts to a control device.

***Car-seal*** means a seal that is placed on a device that is used to change the position of a valve or damper (*e.g.*, from open to closed) in such a way that the position of the valve or damper cannot be changed without breaking the seal.

***Coating material(s)*** means all liquid or semi-liquid materials (including the solids fraction of those materials as applied), such as inks, varnishes, adhesives (including hot melt adhesives or other hot melt materials), primers, solvents, reducers, and other materials applied to a substrate via a web coating line. Materials used to form a substrate or applied via vapor deposition, and dry abrasive materials deposited on top of a coated web, are not considered coating materials.

***Control device*** means a device such as a solvent recovery device or oxidizer which reduces the organic HAP in an exhaust gas by recovery or by destruction.

***Control device efficiency*** means the ratio of organic HAP emissions recovered or destroyed by a control device to the total organic HAP emissions that are introduced into the control device, expressed as a percentage.

***Day*** means a 24-consecutive-hour period.

***Deviation*** means any instance in which an affected source, subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during start-up, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

***Existing affected source*** means any affected source the construction or reconstruction of which is commenced on or before September 13, 2000, and has not undergone reconstruction as defined in [§ 63.2](#).

***Fabric*** means any woven, knitted, plaited, braided, felted, or non-woven material made of filaments, fibers, or yarns including thread. This term includes material made of fiberglass, natural fibers, synthetic fibers, or composite materials.

***Facility*** means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

***Flexible packaging*** means any package or part of a package the shape of which can be readily changed. Flexible packaging includes, but is not limited to, bags, pouches, labels, liners and wraps utilizing paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials.

***Formulation data*** means data on the organic HAP mass fraction, volatile matter mass fraction, or coating solids mass fraction of a material that is generated by the manufacturer or means other than a test method specified in this subpart or an approved alternative method.

***HAP*** means hazardous air pollutants.

***HAP applied*** means the organic HAP content of all coating materials applied to a substrate by a web coating line at an affected source.

***Intermittently-controlled work station*** means a work station associated with a dryer with provisions for the dryer exhaust to be delivered to or diverted from a control device through a bypass line, depending on the position of a valve or damper. Sampling lines for analyzers, relief valves needed for safety purposes, and periodic cycling of exhaust dampers to ensure safe operation are not considered bypass lines.

***Metal coil*** means a continuous metal strip that is at least 0.15 millimeter (0.006 inch) thick which is packaged in a roll or coil prior to coating. After coating, it may or may not be rewound into a roll or coil. Metal coil does not include metal webs that are coated for use in flexible packaging.

***Month*** means a calendar month or a pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

***Never-controlled work station*** means a work station that is not equipped with provisions by which any emissions, including those in the exhaust from any associated dryer, may be delivered to a control device.

***New affected source*** means any affected source the construction or reconstruction of which is commenced after September 13, 2000.

***Overall organic HAP control efficiency*** means the total efficiency of a capture and control system.

**Pressure sensitive tape** means a flexible backing material with a pressure-sensitive adhesive coating on one or both sides of the backing. Examples include, but are not limited to, duct/duct insulation tape and medical tape.

**Research or laboratory equipment** means any equipment for which the primary purpose is to conduct research and development into new processes and products where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce except in a *de minimis* manner.

**Rewind or cutting station** means a unit from which substrate is collected at the outlet of a web coating line.

**Uncontrolled coating line** means a coating line consisting of only never-controlled work stations.

**Unwind or feed station** means a unit from which substrate is fed to a web coating line.

**Web** means a continuous substrate (*e.g.*, paper, film, foil) which is flexible enough to be wound or unwound as rolls.

**Web coating line** means any number of work stations, of which one or more applies a continuous layer of liquid or semi-liquid coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station.

**Work station** means a unit on a web coating line where coating material is deposited onto a web substrate.

[[67 FR 72341](#), Dec. 4, 2002, as amended at [85 FR 41296](#), July 9, 2020]

Emission Standards and Compliance Dates

## § 63.3320 What emission standards must I meet?

- (a) If you own or operate any affected source that is subject to the requirements of this subpart, you must comply with these requirements on and after the compliance dates as specified in [§ 63.3330](#).
- (b) You must limit organic HAP emissions to the level specified in [paragraph \(b\)\(1\), \(2\), \(3\), or \(4\)](#) of this section for all periods of operation, including startup, shutdown, and malfunction (SSM).
  - (1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources; or



(2) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources, and no more than 1.6 percent of the mass of coating materials applied for each month at new affected sources; or

(3) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources, and no more than 8 percent of the coating solids applied for each month at new affected sources.

(4) If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) on a dry basis is achieved and the efficiency of the capture system is 100 percent.

(c) You must demonstrate compliance with this subpart by following the procedures in [§ 63.3370](#).

[[67 FR 72341](#), Dec. 4, 2002, as amended at [85 FR 41296](#), July 9, 2020]

## **§ 63.3321 What operating limits must I meet?**

(a) For any web coating line or group of web coating lines for which you use add-on control devices to demonstrate compliance with the emission standards in [§ 63.3320](#), unless you use a solvent recovery system and conduct a liquid-liquid material balance, you must meet the operating limits specified in Table 1 to this subpart or according to [paragraph \(b\)](#) of this section. These operating limits apply to emission capture systems and control devices used to demonstrate compliance with this subpart, and you must establish the operating limits during the performance test according to the requirements in [§ 63.3360\(e\)\(3\)](#). You must meet the operating limits at all times after you establish them.

(b) If you use an add-on control device other than those listed in Table 1 to this subpart or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under [§ 63.8\(f\)](#).

[[67 FR 72341](#), Dec. 4, 2002, as amended at [85 FR 41296](#), July 9, 2020]

## **§ 63.3330 When must I comply?**

(a) For affected sources which commenced construction or reconstruction prior to September 19, 2019, you must comply as follows:

(1) Before July 9, 2021, the affected coating operation(s) must be in compliance with the applicable emission limit in [§ 63.3320](#) at all times, except during periods of SSM. On and after July 9, 2021, the affected coating operation(s) must be in compliance with the applicable emission limit in [§ 63.3320](#) at all times, including periods of SSM.

(2) A periodic emissions performance test must be performed by July 9, 2023, or within 60 months of the previous test, whichever is later, and subsequent tests no later than 60 months thereafter, as required in [§ 63.3360](#). Performance testing for HAP or VOC destruction efficiency required by state agencies can be used to meet this requirement.

(3) After July 9, 2021, you must electronically submit initial notifications, notifications of compliance status, performance evaluation reports, and performance test reports, as required in [§ 63.3400](#). Semiannual compliance reports must be submitted electronically for the first full semiannual compliance period after the template has been available in the Compliance and Emissions Data Reporting Interface (CEDRI) for 1 year.

(b) For new affected sources which commenced construction or reconstruction after September 19, 2019, you must comply as indicated in [paragraphs \(b\)\(1\) through \(3\)](#) of this section. Existing affected sources which have undergone reconstruction as defined in [§ 63.2](#) are subject to the requirements for new affected sources. The costs associated with the purchase and installation of air pollution control equipment are not considered in determining whether the existing affected source has been reconstructed. Additionally, the costs of retrofitting and replacing of equipment that is installed specifically to comply with this subpart are not considered reconstruction costs.

(1) The coating operation(s) must be in compliance with the applicable emission limit in [§ 63.3320](#) at all times, including periods of SSM, starting July 9, 2020, or immediately upon startup, whichever is later.

(2) You must complete any initial performance test required in [§ 63.3360](#) within the time limits specified in [§ 63.7\(a\)\(2\)](#), and subsequent tests no later than 60 months thereafter.

(3) You must electronically submit initial notifications, notifications of compliance status, performance evaluation reports, and performance test reports as required in [§ 63.3400](#) starting July 9, 2020, or immediately upon startup, whichever is later. Semiannual compliance reports must be submitted electronically for the first full semiannual compliance period after the template has been available in CEDRI for 1 year.

[\[85 FR 41296, July 9, 2020\]](#)

General Requirements for Compliance With the Emission Standards and for Monitoring and Performance Tests

## **§ 63.3340 What general requirements must I meet to comply with the standards?**

(a) Before July 9, 2021, for each existing source for which construction or reconstruction commenced on or before September 19, 2019, you must be in compliance with the emission limits and operating limits in this subpart at all times, except during periods of SSM. On and after July 9, 2021, for each such source you must be in compliance with the emission limits and

operating limits in this subpart at all times. For new and reconstructed sources for which construction or reconstruction commenced after September 19, 2019, you must be in compliance with the emission limits and operating limits in this subpart at all times, starting July 9, 2020, or immediately upon startup, whichever is later.

(b) For affected sources as of September 19, 2019, before July 9, 2021, you must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subpart, according to the provisions in [§ 63.6\(e\)\(1\)\(i\)](#). On and after July 9, 2021, for such sources and on July 9, 2020, or immediately upon startup, whichever is later, for new or reconstructed affected sources, you must always operate and maintain your 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. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements 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.

(c) You must conduct each performance test required by [§ 63.3360](#) according to the requirements in [§ 63.3360\(e\)\(2\)](#) and under the conditions in this section unless you obtain a waiver of the performance test according to the provisions in [§ 63.7\(h\)](#).

(1) Representative coating operation operating conditions. You must conduct the performance test under representative operating conditions for the coating operation. Operations during periods of startup, shutdown, and nonoperation do not constitute representative conditions. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) Representative emission capture system and add-on control device operating conditions. You must conduct the performance test when the emission capture system and add-on control device are operating at a representative flow rate, and the add-on control device is operating at a representative inlet concentration. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must record information that is necessary to document emission capture system and add-on control device operating conditions during the test and explain why the conditions represent normal operation.

(d) Table 2 to this subpart specifies the provisions of [subpart A of this part](#) that apply if you are subject to subpart JJJJ.

## § 63.3350 If I use a control device to comply with the emission standards, what monitoring must I do?

(a) A summary of monitoring you must do follows:

| If you operate a web coating line, and have the following: | Then you must:   |
|--|--|
| (1) Intermittently-controlled work stations                | Record parameters related to possible exhaust flow bypass of control device and to coating use ( <a href="#">§ 63.3350(c)</a> ).   |
| (2) Solvent recovery unit                                  | Operate continuous emission monitoring system and perform quarterly audits or determine volatile matter recovered and conduct a liquid-liquid material balance ( <a href="#">§ 63.3350(d)</a> ). |
| (3) Control Device   | Operate continuous parameter monitoring system ( <a href="#">§ 63.3350(e)</a> ).   |
| (4) Capture system   | Monitor capture system operating parameter ( <a href="#">§ 63.3350(f)</a> ).   |

(b) Following the date on which the initial or periodic performance test of a control device is completed to demonstrate continuing compliance with the standards, you must monitor and inspect each capture system and each control device used to comply with [§ 63.3320](#). You must install and operate the monitoring equipment as specified in [paragraphs \(c\)](#) and [\(f\)](#) of this section.

(c) ***Bypass and coating use monitoring.*** If you own or operate web coating lines with intermittently-controlled work stations, you must monitor bypasses of the control device and the mass of each coating material applied at the work station during any such bypass. If using a control device for complying with the requirements of this subpart, you must demonstrate that any coating material applied on a never-controlled work station or an intermittently-controlled work station operated in bypass mode is allowed in your compliance demonstration according to [§ 63.3370\(o\)](#) and [\(p\)](#). The bypass monitoring must be conducted using at least one of the procedures in [paragraphs \(c\)\(1\)](#) through [\(4\)](#) of this section for each work station and associated dryer.

(1) ***Flow control position indicator.*** Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that provides a record indicating whether the exhaust stream from the dryer was directed to the control device or was diverted from the control device. The time and flow control position must be recorded at least once per hour as well as every time the flow direction is changed. A flow control position indicator must be installed at the entrance to any bypass line that could divert the exhaust stream away from the control device to the atmosphere.

(2) ***Car-seal or lock-and-key valve closures.*** Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve

or damper is maintained in the closed position, and the exhaust stream is not diverted through the bypass line.

(3) **Valve closure continuous monitoring.** Ensure that any bypass line valve or damper is in the closed position through continuous monitoring of valve position when the emission source is in operation and is using a control device for compliance with the requirements of this subpart. The monitoring system must be inspected at least once every month to verify that the monitor will indicate valve position.

(4) **Automatic shutdown system.** Use an automatic shutdown system in which the web coating line is stopped when flow is diverted away from the control device to any bypass line when the control device is in operation. The automatic system must be inspected at least once every month to verify that it will detect diversions of flow and would shut down operations in the event of such a diversion.

(d) **Solvent recovery unit.** If you own or operate a solvent recovery unit to comply with [§ 63.3320](#), you must meet the requirements in either [paragraph \(d\)\(1\)](#) or [\(2\)](#) of this section depending on how control efficiency is determined.

(1) **Continuous emission monitoring system (CEMS).** If you are demonstrating compliance with the emission standards in [§ 63.3320](#) through continuous emission monitoring of a control device, you must install, calibrate, operate, and maintain the CEMS according to [paragraphs \(d\)\(1\)\(i\)](#) through [\(iii\)](#) of this section.

(i) Measure the total organic volatile matter mass flow rate at both the control device inlet and the outlet such that the reduction efficiency can be determined. Each continuous emission monitor must comply with performance specification 6, 8, or 9 of [40 CFR part 60, appendix B](#), as appropriate.

(ii) You must follow the quality assurance procedures in procedure 1, appendix F of [40 CFR part 60](#). In conducting the quarterly audits of the monitors as required by procedure 1, appendix F, you must use compounds representative of the gaseous emission stream being controlled.

(iii) You must have valid data from at least 90 percent of the hours when the process is operated. Invalid or missing data should be reported as a deviation in the semiannual compliance report.

(2) **Liquid-liquid material balance.** If you are demonstrating compliance with the emission standards in [§ 63.3320](#) through liquid-liquid material balance, you must install, calibrate, maintain, and operate according to the manufacturer's specifications a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device must be certified by the manufacturer to be accurate to within  $\pm 2.0$  percent by mass.

(e) ***Continuous parameter monitoring system (CPMS)***. If you are using a control device to comply with the emission standards in [§ 63.3320](#), you must install, operate, and maintain each CPMS specified in [paragraphs \(e\)\(10\)](#) and [\(11\)](#) and [\(f\)](#) of this section according to the requirements in [paragraphs \(e\)\(1\)](#) through [\(9\)](#) of this section. You must install, operate, and maintain each CPMS specified in [paragraph \(c\)](#) of this section according to [paragraphs \(e\)\(5\)](#) through [\(8\)](#) of this section.

(1) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four equally spaced successive cycles of CPMS operation to have a valid hour of data.

(2) You must have valid data from at least 90 percent of the hours when the process operated.

(3) You must determine the hourly average of all recorded readings according to [paragraphs \(e\)\(3\)\(i\)](#) and [\(ii\)](#) of this section.

(i) To calculate a valid hourly value, you must have at least three of four equally spaced data values from that hour from a continuous monitoring system (CMS) that is not out-of-control.

(ii) Provided all of the readings recorded in accordance with [paragraph \(e\)\(3\)](#) of this section clearly demonstrate continuous compliance with the standard that applies to you, then you are not required to determine the hourly average of all recorded readings.

(4) You must determine the block 3-hour average of all recorded readings for each operating period. To calculate the average for each 3-hour averaging period, you must have at least two of three of the hourly averages for that period using only average values that are based on valid data (*i.e.*, not from out-of-control periods).

(5) Except for temperature sensors, you must develop a quality control program that must contain, at a minimum, a written protocol that describes the procedures for each of the operations in [§ 63.3350\(e\)\(5\)\(i\)](#) through [\(vi\)](#). The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, the owner or operator shall keep previous (*i.e.*, superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. For temperature sensors, you must follow the requirements in [§ 63.3350\(e\)\(10\)](#).

(i) Initial and any subsequent calibration of the continuous monitoring system (CMS);

(ii) Determination and adjustment of the calibration drift of the CMS;

(iii) Preventative maintenance of the CMS, including spare parts inventory;

(iv) Data recording, calculations, and reporting;

(v) Accuracy audit procedures, including sampling and analysis methods; and

(vi) Program of corrective action for a malfunctioning CMS.

(6) You must record the results of each inspection, calibration, and validation check of the CPMS.

(7) At all times, you must maintain the monitoring system in proper working order including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(8) Except for monitoring malfunctions, associated repairs, or required quality assurance or control activities (including calibration checks or required zero and span adjustments), you must conduct all monitoring at all times that the unit is operating. Data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used for purposes of calculating the emissions concentrations and percent reductions specified in [§ 63.3370](#). You must use all the valid data collected during all other periods in assessing compliance of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(9) Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation, and you must notify the Administrator in accordance with [§ 63.3400\(c\)](#).

(10) **Oxidizer.** If you are using an oxidizer to comply with the emission standards of this subpart, you must comply with [paragraphs \(e\)\(10\)\(i\) through \(vi\)](#) of this section.

(i) Install, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications.

(ii) For an oxidizer other than a catalytic oxidizer, install, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature with an accuracy of  $\pm 1$  percent of the temperature being monitored in degrees Fahrenheit or  $\pm 1.8$  degrees Fahrenheit, whichever is greater. The temperature sensor must be installed in the combustion chamber at a location in the combustion zone.

(iii) For a catalytic oxidizer, install, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature with an accuracy of  $\pm 1$  percent of the temperature being monitored in degrees Fahrenheit or  $\pm 1.8$  degrees Fahrenheit, whichever is greater. The temperature sensor must



be installed in the vent stream at the nearest feasible point to the inlet and outlet of the catalyst bed. Calculate the temperature rise across the catalyst.

(iv) For temperature sensors, you must develop a quality control program that must contain, at a minimum, a written protocol that describes the procedures for verifying that the temperature sensor is operating properly using at least one of the methods in [paragraph \(e\)\(10\)\(iv\)\(A\), \(B\), \(C\), \(D\), \(E\), or \(F\)](#) of this section. The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator:

(A) Semiannually, compare measured readings to a National Institute of Standards and Technology (NIST) traceable temperature measurement device or simulate a typical operating temperature using a NIST traceable temperature simulation device. When the temperature measurement device method is used, the sensor of the calibrated device must be placed as close as practicable to the process sensor, and both devices must be subjected to the same environmental conditions. The accuracy of the temperature measured must be 2.5 percent of the temperature measured by the NIST traceable device or 5 degrees Fahrenheit whichever is greater.

(B) Annually validate the temperature sensor by following applicable mechanical and electrical validation procedures in the manufacturer owner's manual.

(C) Annually request the temperature sensor manufacturer to certify or re-certify electromotive force (electrical properties) of the thermocouple.

(D) Annually replace the temperature sensor with a new certified temperature sensor in lieu of validation.

(E) Permanently install a redundant temperature sensor as close as practicable to the process temperature sensor. The sensors must yield a reading within 2.5 percent of each other for thermal oxidizers and catalytic oxidizers.

(F) Permanently install a temperature sensor with dual sensors to account for the possibility of failure.

(v) Conduct the validation checks in [paragraph \(e\)\(10\)\(iv\)\(A\), \(B\), or \(C\)](#) of this section any time the temperature sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.

(vi) At least quarterly, inspect temperature sensor components for proper connection and integrity or continuously operate an electronic monitoring system designed to notify personnel if the signal from the temperature sensor is interrupted.



(11) ***Other types of control devices.*** If you use a control device other than an oxidizer or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of an alternative monitoring method under [§ 63.8\(f\)](#).

(f) ***Capture system monitoring.*** If you are complying with the emission standards in [§ 63.3320](#) through the use of a capture system and control device for one or more web coating lines, you must develop a site-specific monitoring plan containing the information specified in [paragraphs \(f\)\(1\)](#) and [\(2\)](#) of this section for these capture systems. You must monitor the capture system in accordance with [paragraph \(f\)\(3\)](#) of this section. You must make the monitoring plan available for inspection by the permitting authority upon request.

(1) The monitoring plan must:

(i) Identify the operating parameter to be monitored to ensure that the capture efficiency determined during the initial compliance test is maintained; and

(ii) Explain why this parameter is appropriate for demonstrating ongoing compliance; and

(iii) Identify the specific monitoring procedures.

(2) The monitoring plan must specify the operating parameter value or range of values that demonstrate compliance with the emission standards in [§ 63.3320](#). The specified operating parameter value or range of values must represent the conditions present when the capture system is being properly operated and maintained.

(3) You must conduct all capture system monitoring in accordance with the plan.

(4) Any deviation from the operating parameter value or range of values which are monitored according to the plan will be considered a deviation from the operating limit.

(5) You must review and update the capture system monitoring plan at least annually.

[[67 FR 72341](#), Dec. 4, 2002, as amended at [85 FR 41297](#), July 9, 2020]

## **§ 63.3360 What performance tests must I conduct?**

(a) The performance test methods you must conduct are as follows:

|   |                         |
|---|-------------------------|
| <p><b>If you control organic HAP on any individual web coating line or any group of web coating lines to demonstrate compliance with the emission limits in <a href="#">§ 63.3320</a> by:</b></p> | <p><b>You must:</b></p> |
|---|-------------------------|

(1) Limiting organic HAP or volatile matter content of coatings Determine the organic HAP or volatile matter and coating solids content of coating materials according to procedures in [paragraphs \(c\) and \(d\)](#) of this section. If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to [paragraph \(g\)](#) of this section.

(2) Using a capture and control system

(i) Initially, conduct a performance test for each capture and control system to determine: The destruction or removal efficiency of each control device other than solvent recovery according to [§ 63.3360\(e\)](#), and the capture efficiency of each capture system according to [§ 63.3360\(f\)](#). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to [§ 63.3360\(g\)](#).

(ii) Perform a periodic test once every 5 years for each thermal oxidizer to determine the destruction or removal efficiency according to [§ 63.3360\(e\)](#). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to [§ 63.3360\(g\)](#).

(iii) Either perform a periodic test once every 5 years for each catalytic oxidizer to determine the destruction or removal efficiency according to [§ 63.3360\(e\)](#) OR perform a catalyst activity test annually on each catalytic oxidizer to ensure that the catalyst is performing properly according to [§ 63.3360\(e\)\(3\)\(ii\)\(D\)\(1\)](#). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to [§ 63.3360\(g\)](#).

(b) **Control Device.** If you are using a control device to comply with the emission standards in [§ 63.3320](#), you are not required to conduct a performance test to demonstrate compliance if one or more of the criteria in [paragraphs \(b\)\(1\) through \(3\)](#) of this section are met.

(1) The control device is equipped with continuous emission monitoring systems (CEMS) for determining inlet and outlet total organic volatile matter concentration and meeting the requirements of Performance Specification 6, 8, or 9 in appendix B to 40 CFR part 60 and capture efficiency has been determined in accordance with the requirements of this subpart such that an overall organic HAP control efficiency can be calculated, and the CEMS are used to demonstrate continuous compliance in accordance with [§ 63.3350](#); or

(2) You have met the requirements of [§ 63.7\(h\)](#) (for waiver of performance testing); or

(3) The control device is a solvent recovery system and you comply by means of a monthly liquid-liquid material balance.

(c) **Organic HAP content.** If you determine compliance with the emission standards in [§ 63.3320](#) by means other than determining the overall organic HAP control efficiency of a control device, you must determine the organic HAP mass fraction of each coating material “as-purchased” by following one of the procedures in [paragraphs \(c\)\(1\) through \(3\)](#) of this section, and determine the organic HAP mass fraction of each coating material “as-applied” by following the procedures in [paragraph \(c\)\(4\)](#) of this section. If the organic HAP content values are not determined using the procedures in [paragraphs \(c\)\(1\) through \(3\)](#) of this section, the owner or operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with [§ 63.7\(f\)](#). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.

(1) **Method 311.** You may test the coating material in accordance with Method 311 of [appendix A of this part](#). The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the owner or operator. The organic HAP content must be calculated according to the criteria and procedures in [paragraphs \(c\)\(1\)\(i\) through \(iii\)](#) of this section.

(i) Include each organic HAP determined to be present at greater than or equal to 0.1 mass percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in section A.6.4 of appendix A to 29 CFR 1910.1200 and greater than or equal to 1.0 mass percent for other organic HAP compounds.

(ii) Express the mass fraction of each organic HAP you include according to [paragraph \(c\)\(1\)\(i\)](#) of this section as a value truncated to four places after the decimal point (for example, 0.3791).

(iii) Calculate the total mass fraction of organic HAP in the tested material by summing the counted individual organic HAP mass fractions and truncating the result to three places after the decimal point (for example, 0.763).

(2) **Method 24.** For coatings, determine the volatile organic content as mass fraction of nonaqueous volatile matter and use it as a substitute for organic HAP using Method 24 of appendix A-7 to [40 CFR part 60](#). The Method 24 determination may be performed by the manufacturer of the coating and the results provided to you. One of the voluntary consensus standards in [paragraphs \(c\)\(2\)\(i\) through \(v\)](#) of this section may be used as an alternative to using Method 24.

(i) ASTM D1963-85 (Reapproved 1996), (incorporated by reference, see [§ 63.14](#));

(ii) ASTM D2111-10 (Reapproved 2015), (incorporated by reference, see [§ 63.14](#));

(iii) ASTM D2369-10 (Reapproved 2015)<sup>e</sup>, (incorporated by reference, see [§ 63.14](#));

(iv) ASTM D2697-03 (Reapproved 2014), (incorporated by reference, see [§ 63.14](#)); and

(v) ASTM D6093-97 (Reapproved 2016), (incorporated by reference, see [§ 63.14](#)).

(3) **Formulation data.** You may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 311 (appendix A to this part) test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in section A.6.4 of appendix A to 29 CFR 1910.1200 and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.

(4) **As-applied organic HAP mass fraction.** If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction. Otherwise, the as-applied organic HAP mass fraction must be calculated using Equation 4 of [§ 63.3370](#).

(d) **Volatile organic and coating solids content.** If you determine compliance with the emission standards in [§ 63.3320](#) by means other than determining the overall organic HAP control efficiency of a control device and you choose to use the volatile organic content as a surrogate for the organic HAP content of coatings, you must determine the as-purchased volatile organic content and coating solids content of each coating material applied by following the procedures in [paragraph \(d\)\(1\)](#) or [\(2\)](#) of this section, and the as-applied volatile organic content and coating solids content of each coating material by following the procedures in [paragraph \(d\)\(3\)](#) of this section.

(1) **Method 24.** You may determine the volatile organic and coating solids mass fraction of each coating applied using Method 24 (appendix A-7 to [40 CFR part 60](#)). The Method 24 determination may be performed by the manufacturer of the material and the results provided to you. When using volatile organic compound content as a surrogate for HAP, you may also use ASTM D3960-98, (incorporated by reference, see [§ 63.14](#)) as an alternative to Method 24. If these values cannot be determined using either of these methods, you must submit an alternative technique for determining their values for approval by the Administrator.

(2) **Formulation data.** You may determine the volatile organic content and coating solids content of a coating material based on formulation data and may rely on volatile organic content data provided by the manufacturer of the material. In the event of any inconsistency between the formulation data and the results of Method 24 of appendix A-7 to [40 CFR part 60](#) and the Method 24 results are higher, the results of Method 24 will govern.

(3) **As-applied volatile organic content and coating solids content.** If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied volatile organic content is equal to the as-purchased volatile content and the as-applied coating solids content is equal to the as-purchased coating solids content. Otherwise,

the as-applied volatile organic content must be calculated using Equation 5 to [§ 63.3370\(c\)\(4\)](#) and the as-applied coating solids content must be calculated using Equation 6 to [§ 63.3370\(d\)](#).

(e) **Control device efficiency.** If you are using an add-on control device other than solvent recovery, such as an oxidizer, to comply with the emission standards in [§ 63.3320](#), you must conduct a performance test to establish the destruction or removal efficiency of the control device according to the methods and procedures in [paragraphs \(e\)\(1\)](#) and [\(2\)](#) of this section. During the performance test, you must establish the operating limits required by [§ 63.3321](#) according to [paragraph \(e\)\(3\)](#) of this section.

(1) **Initial performance test.** An initial performance test to establish the destruction or removal efficiency of the control device used to comply with the emission standards in [§ 63.3320](#) must be conducted such that control device inlet and outlet testing is conducted simultaneously, and the data are reduced in accordance with the test methods and procedures in [paragraphs \(e\)\(1\)\(i\)](#) through [\(ix\)](#) of this section. You must conduct three test runs as specified in [§ 63.7\(e\)\(3\)](#), and each test run must last at least 1 hour.

(i) Method 1 or 1A of appendix A-1 to [40 CFR part 60](#) must be used for sample and velocity traverses to determine sampling locations.

(ii) Method 2, 2A, 2C, 2D, or 2F of appendix A-1 to [40 CFR part 60](#), or Method 2G of appendix A-2 to [40 CFR part 60](#) must be used to determine gas volumetric flow rate.

(iii) Method 3, 3A, or 3B of appendix A-2 to [40 CFR part 60](#) must be used for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas in ANSI/ASME PTC 19.10-1981 Part 10, (incorporated by reference, see [§ 63.14](#)).

(iv) Method 4 of appendix A-3 to [40 CFR part 60](#) must be used to determine stack gas moisture.

(v) Methods for determining the gas volumetric flow rate, dry molecular weight, and stack gas moisture must be performed, as applicable, during each test run.

(vi) Method 25 or 25A of appendix A-7 to [40 CFR part 60](#) must be used to determine total gaseous non-methane organic matter concentration. Use the same test method for both the inlet and outlet measurements which must be conducted simultaneously. You must submit notice of the intended test method to the Administrator for approval along with notification of the performance test required under [§ 63.7\(b\)](#). You must use Method 25A if any of the conditions described in [paragraphs \(e\)\(1\)\(vi\)\(A\)](#) through [\(D\)](#) of this section apply to the control device.

(A) The control device is not an oxidizer.

(B) The control device is an oxidizer but an exhaust gas volatile organic matter concentration of 50 ppmv or less is required to comply with the emission standards in [§ 63.3320](#); or

(C) The control device is an oxidizer but the volatile organic matter concentration at the inlet to the control system and the required level of control are such that they result in exhaust gas volatile organic matter concentrations of 50 ppmv or less; or

(D) The control device is an oxidizer but because of the high efficiency of the control device the anticipated volatile organic matter concentration at the control device exhaust is 50 ppmv or less, regardless of inlet concentration.

(vii) Except as provided in [§ 63.7\(e\)\(3\)](#), each performance test must consist of three separate runs with each run conducted for at least 1 hour under the conditions that exist when the affected source is operating under normal operating conditions. For the purpose of determining volatile organic compound concentrations and mass flow rates, the average of the results of all the runs will apply.

(viii) Volatile organic matter mass flow rates must be determined for each run specified in [paragraph \(e\)\(1\)\(vii\)](#) of this section using Equation 1:

$$M_f = Q_{sd} C_c [12][0.0416][10^{-6}]$$

Where:

$M_f$  = Total organic volatile matter mass flow rate, kilograms (kg)/hour (h).

$Q_{sd}$  = Volumetric flow rate of gases entering or exiting the control device, as determined according to [paragraph \(e\)\(1\)\(ii\)](#) of this section, dry standard cubic meters (dscm)/h.

$C_c$  = Concentration of organic compounds as carbon, ppmv.

12.0 = Molecular weight of carbon.

0.0416 = Conversion factor for molar volume, kg-moles per cubic meter ( $\text{mol/m}^3$ ) (@293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

(ix) For each run, emission control device destruction or removal efficiency must be determined using Equation 2:

$$E = \frac{M_{fi} - M_{fo}}{M_{fi}} \times 100$$

Where:

$E$  = Organic volatile matter control efficiency of the control device, percent.

$M_{fi}$  = Organic volatile matter mass flow rate at the inlet to the control device, kg/h.

$M_{fo}$  = Organic volatile matter mass flow rate at the outlet of the control device, kg/h.

(x) The control device destruction or removal efficiency is determined as the average of the efficiencies determined in the test runs and calculated in Equation 2.

(2) **Process information.** You must record such process information as may be necessary to determine the conditions in existence at the time of the performance test. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(3) **Operating limits.** If you are using one or more add-on control device other than a solvent recovery system for which you conduct a liquid-liquid material balance to comply with the emission standards in [§ 63.3320](#), you must establish the applicable operating limits required by [§ 63.3321](#). These operating limits apply to each add-on emission control device, and you must establish the operating limits during the performance test required by [paragraph \(e\)](#) of this section according to the requirements in [paragraphs \(e\)\(3\)\(i\)](#) and [\(ii\)](#) of this section.

(i) Thermal oxidizer. If your add-on control device is a thermal oxidizer, establish the operating limits according to [paragraphs \(e\)\(3\)\(i\)\(A\)](#) and [\(B\)](#) of this section.

(A) During the performance test, you must monitor and record the combustion temperature at least once every 15 minutes during each of the three test runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

(B) Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. Maintain the 3-hour average combustion temperature no more than 50 degrees Fahrenheit lower than this average combustion temperature.

(ii) Catalytic oxidizer. If your add-on control device is a catalytic oxidizer, establish the operating limits according to paragraphs (e)(3)(ii)(A) and (B) or [paragraphs \(e\)\(3\)\(ii\)\(C\)](#) and [\(D\)](#) of this section.



(A) During the performance test, you must monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs.

(B) Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. Maintain the 3-hour average combustion temperature no more than 50 degrees Fahrenheit lower than this average combustion temperature or maintain the 3-hour average temperature difference across the catalyst bed at no less than 80 percent of this average temperature differential, provided that the minimum temperature is always 50 degrees Fahrenheit above the catalyst's ignition temperature.

(C) As an alternative to monitoring the temperature difference across the catalyst bed, you may monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in [paragraph \(e\)\(3\)\(ii\)\(D\)](#) of this section. During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. Maintain the 3-hour average combustion temperature no more than 50 degrees Fahrenheit lower than this average combustion temperature.

(D) You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s) for which you elect to monitor according to [paragraph \(e\)\(3\)\(ii\)\(C\)](#) of this section. The plan must address, at a minimum, the elements specified in [paragraphs \(e\)\(3\)\(ii\)\(D\)\(1\)](#) through [\(3\)](#) of this section.

(1) Annual sampling and analysis of the catalyst activity (*i.e.*, conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures,

(2) Monthly inspection of the oxidizer system including the burner assembly and fuel supply lines for problems, and

(3) Annual internal and monthly external visual inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found, you must take corrective action consistent with the manufacturer's recommendations and conduct a new performance test to determine destruction efficiency in accordance with this section.

(4) ***Control Destruction Efficiency Curve Development.*** If you are using one or more add-on control devices other than a solvent recovery system for which you conduct a liquid-liquid material balance to comply with the emission standards in [§ 63.3320](#), you may establish a control destruction efficiency curve for use in estimating emissions that occur during deviations of the 3-hour operating parameters. This curve can be generated using test data or manufacturer's data that specifically documents the level of control at varying temperatures for your control device.



(f) **Capture efficiency.** If you demonstrate compliance by meeting the requirements of § 63.3370(f), (g), (h), (i), (j)(2), (l), (o)(2) or (3), or (q), you must determine capture efficiency using the procedures in paragraph (f)(1), (2), or (3) of this section, as applicable.

(1) You may assume your capture efficiency equals 100 percent if your capture system is a permanent total enclosure (PTE). You must confirm that your capture system is a PTE by demonstrating that it meets the requirements of section 6 of EPA Method 204 of [40 CFR part 51, appendix M](#), and that all exhaust gases from the enclosure are delivered to a control device.

(2) You may determine capture efficiency according to the protocols for testing with temporary total enclosures that are specified in Methods 204 and 204A through F of [40 CFR part 51, appendix M](#). You may exclude never-controlled work stations from such capture efficiency determinations.

(3) You may use any capture efficiency protocol and test methods that satisfy the criteria of either the Data Quality Objective or the Lower Confidence Limit approach as described in appendix A of [subpart KK of this part](#). You may exclude never-controlled work stations from such capture efficiency determinations.

(g) **Volatile matter retained in the coated web or otherwise not emitted to the atmosphere.** You may choose to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere when determining compliance with the emission standards in § 63.3320. If you choose this option, you must develop a site- and product-specific emission factor (EF) and determine the amount of volatile matter retained in the coated web or otherwise not emitted using Equation 3 to § 63.3360(g)(1). The EF must be developed by conducting a performance test using an approved EPA test method, or alternative approved by the Administrator by obtaining the average of a three-run test. You may additionally use manufacturer's emissions test data (as long as it replicates the facility's coating formulation and operating conditions), or a mass-balance type approach using a modified Method 24 (including ASTM D5403-93 for radiation-curable coatings). The EF should equal the proportion of the mass of volatile organics emitted to the mass of volatile organics in the coating materials evaluated. You may use the EF in your compliance calculations only for periods that the work station(s) was (were) used to make the product, or a similar product, corresponding to that produced during the performance test. You must develop a separate EF for each group of different products that you choose to utilize an EF for calculating emissions by conducting a separate performance test for that group of products. You must conduct a periodic performance test to re-establish the EF if there is a change in coating formulation, operating conditions, or other change that could reasonably be expected to increase emissions since the time of the last test that was used to establish the EF.

(1) Calculate the mass of volatile organics retained in the coated web or otherwise not emitted for the month from each group of similar products using Equation 3:

$$M_{vret} = (C_{vi}M_i + \sum_{j=1}^q C_{vij}M_{ij}) \times (1 - EF_i)$$

Where:

$M_{\text{ret}}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg.

$C_{\text{vi}}$  = Volatile organic content of coating material, i, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material, i, applied in a month, kg.

q = Number of different materials added to the coating material.

$C_{\text{vij}}$  = Volatile organic content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

$EF_i$  = Volatile organic matter site- and product-specific emission factor (three-run average determined from performance testing, evaluated as proportion of mass volatile organics emitted to mass of volatile organics in the coatings used during the performance test).

(2) [Reserved]

(h) **Control devices in series.** If you use multiple control devices in series to comply with the emission standards in [§ 63.3320](#), the performance test must include, at a minimum, the inlet to the first control device in the series, the outlet of the last control device in the series, and all intermediate streams (*e.g.*, gaseous exhaust to the atmosphere or a liquid stream from a recovery device) that are not subsequently treated by any of the control devices in the series.

[[67 FR 72341](#), Dec. 4, 2002, as amended at [85 FR 41298](#), July 9, 2020]

Requirements for Showing Compliance

## **§ 63.3370 How do I demonstrate compliance with the emission standards?**

You must demonstrate compliance each month with the emission limitations in [§ 63.3320\(b\)\(1\)](#) through [\(4\)](#). For each monthly demonstration, you may apply any combination of the emission limitations to each of your web coating lines individually, to each of one or more groupings of your lines (including a single grouping encompassing all lines of your affected source), or to any combination of individual and grouped lines, so long as each web coating line is included in the compliance demonstration for the month (*i.e.*, you are not required to apply the same emission limitation to each of the individual lines or groups of lines). You may change the emission limitation that you apply each month to your individual or grouped lines, and you may change line groupings for your monthly compliance demonstration.

(a) A summary of how you must demonstrate compliance follows:

| If you choose to demonstrate compliance by:           | Then you must demonstrate that:  | To accomplish this:   |
|---|--|---|
| (1) Use of “as-purchased” compliant coating materials | (i) Each coating material used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, and each coating material used at a new affected source does not exceed 0.016 kg organic HAP per kg coating material as-purchased; or       | Follow the procedures set out in <a href="#">§ 63.3370(b)</a> .   |
|   | (ii) Each coating material used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids, and each coating material used at a new affected source does not exceed 0.08 kg organic HAP per kg coating solids as-purchased                | Follow the procedures set out in <a href="#">§ 63.3370(b)</a> .   |
| (2) Use of “as-applied” compliant coating materials   | (i) Each coating material used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, and each coating material used at a new affected source does not exceed 0.016 kg organic HAP per kg coating material as-applied; or         | Follow the procedures set out in <a href="#">§ 63.3370(c)(1)</a> . Use either Equation 4 or 5 of <a href="#">§ 63.3370</a> to determine compliance with <a href="#">§ 63.3320(b)(2)</a> in accordance with <a href="#">§ 63.3370(c)(5)(i)</a> . |
|   | (ii) Each coating material used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids, and each coating material used at a new affected source does not exceed 0.08 kg organic HAP per kg coating solids as-applied; or              | Follow the procedures set out in <a href="#">§ 63.3370(c)(2)</a> . Use Equations 6 and 7 of <a href="#">§ 63.3370</a> to determine compliance with <a href="#">§ 63.3320(b)(3)</a> in accordance with <a href="#">§ 63.3370(c)(5)(i)</a> .      |
|   | (iii) Monthly average of all coating materials used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, and monthly average of all coating materials used at a new affected source does not exceed 0.016 kg organic HAP per kg | Follow the procedures set out in <a href="#">§ 63.3370(c)(3)</a> . Use Equation 8 of <a href="#">§ 63.3370</a> to determine compliance with <a href="#">§ 63.3320(b)(2)</a> in accordance with <a href="#">§ 63.3370(c)(5)(ii)</a> .            |

| If you choose to demonstrate compliance by:  | Then you must demonstrate that:   | To accomplish this:  |
|--|---|--|
|  | coating material as-applied on a monthly average basis; or<br>(iv) Monthly average of all coating materials used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids, and monthly average of all coating materials used at a new affected source does not exceed 0.08 kg organic HAP per kg coating solids as-applied on a monthly average basis  | Follow the procedures set out in <a href="#">§ 63.3370(c)(4)</a> . Use Equation 9 of <a href="#">§ 63.3370</a> to determine compliance with <a href="#">§ 63.3320(b)(3)</a> in accordance with <a href="#">§ 63.3370(c)(5)(ii)</a> .   |
| (3) Tracking total monthly organic HAP applied   | Total monthly organic HAP applied does not exceed the calculated limit based on emission limitations  | Follow the procedures set out in <a href="#">§ 63.3370(d)</a> . Show that total monthly HAP applied (Equation 10 of <a href="#">§ 63.3370</a> ) is less than the calculated equivalent allowable organic HAP (Equation 17 or 18 of <a href="#">§ 63.3370</a> ).  |
| (4) Accounting for volatile matter retained in the coated web or otherwise not emitted | A site- and product-specific emission factor was appropriately established for the group of products for which the site- and product-specific emission factor was used in the compliance calculations   | Follow the procedures set out in <a href="#">§ 63.3360(g)</a> and <a href="#">§ 63.3370(e)</a>   |
| (5) Use of a capture system and control device   | (i) Overall organic HAP control efficiency is equal to 95 percent at an existing affected source and 98 percent at a new affected source on a monthly basis; or oxidizer outlet organic HAP concentration is no greater than 20 ppmv and capture efficiency is 100 percent; or operating parameters are continuously monitored; or<br>(ii) Overall organic HAP emission rate does not exceed 0.2 kg organic HAP per kg coating solids for an existing affected source or 0.08 kg organic HAP per kg coating solids for a new affected source on a monthly average as-applied basis;<br>(iii) Overall organic HAP emission | Follow the procedures set out in <a href="#">§ 63.3370(f)</a> to determine compliance with <a href="#">§ 63.3320(b)(1)</a> according to <a href="#">§ 63.3370(j)</a> if using a solvent recovery device, or <a href="#">§ 63.3370(k)</a> if using a control device and CPMS, or <a href="#">§ 63.3370(l)</a> if using an oxidizer.<br><br>Follow the procedures set out in <a href="#">§ 63.3370(g)</a> to determine compliance with <a href="#">§ 63.3320(b)(3)</a> according to <a href="#">§ 63.3370(j)</a> if using a solvent recovery device, or <a href="#">§ 63.3370(l)</a> if using an oxidizer.<br><br>Follow the procedures set out in <a href="#">§</a> |

| If you choose to demonstrate compliance by:        | Then you must demonstrate that:   | To accomplish this:   |
|--|---|---|
|  | <p>rate does not exceed 0.04 kg organic HAP per kg coating material for an existing affected source or 0.016 kg organic HAP per kg coating material for a new affected source on a monthly average as-applied basis; or</p> <p>(iv) Overall organic HAP emission rate does not exceed the calculated limit based on emission limitations</p>  | <p><a href="#">63.3370(h)</a> to determine compliance with <a href="#">§ 63.3320(b)(2)</a> according to <a href="#">§ 63.3370(j)</a> if using a solvent recovery device, or <a href="#">§ 63.3370(l)</a> if using an oxidizer.</p> <p>Follow the procedures set out in <a href="#">§ 63.3370(i)</a>. Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 17 or 18 of <a href="#">§ 63.3370</a>). Calculate the monthly organic HAP emission rate according to <a href="#">§ 63.3370(j)</a> if using a solvent recovery device, or <a href="#">§ 63.3370(l)</a> if using an oxidizer.</p>   |
| (6) Use of multiple capture and/or control devices | <p>(i) Overall organic HAP control efficiency is equal to 95 percent at an existing affected source and 98 percent at a new affected source on a monthly basis; or</p> <p>(ii) Average equivalent organic HAP emission rate does not exceed 0.2 kg organic HAP per kg coating solids for an existing affected source or 0.08 kg organic HAP per kg coating solids for a new affected source on a monthly average as-applied basis; or</p> <p>(iii) Average equivalent organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating material for an existing affected source or 0.016 kg organic HAP per kg coating material for a new affected source on a monthly average as-applied basis; or</p> <p>(iv) Average equivalent organic HAP emission rate does not exceed the calculated limit based on emission limitations</p> | <p>Follow the procedures set out in <a href="#">§ 63.3370(f)</a> to determine compliance with <a href="#">§ 63.3320(b)(1)</a> according to <a href="#">§ 63.3370(f)(1)</a> or <a href="#">(2)</a>.</p> <p>Follow the procedures set out in <a href="#">§ 63.3370(g)</a> to determine compliance with <a href="#">§ 63.3320(b)(3)</a> according to <a href="#">§ 63.3370(o)</a>.</p> <p>Follow the procedures set out in <a href="#">§ 63.3370(h)</a> to determine compliance with <a href="#">§ 63.3320(b)(2)</a> according to <a href="#">§ 63.3370(o)</a>.</p> <p>Follow the procedures set out in <a href="#">§ 63.3370(i)</a>. Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable</p> |

| If you choose to demonstrate compliance by:                        | Then you must demonstrate that:   | To accomplish this:   |
|--|---|---|
| (7) Use of a combination of compliant coatings and control devices | <p>(i) Average equivalent organic HAP emission rate does not exceed 0.2 kg organic HAP per kg coating solids for an existing affected source or 0.08 kg organic HAP per kg coating solids for a new affected source on a monthly average as-applied basis; or</p> <p>(ii) Average equivalent organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating material for an existing affected source or 0.016 kg organic HAP per kg coating material for a new affected source on a monthly average as-applied basis; or</p> <p>(iii) Average equivalent organic HAP emission rate does not exceed the calculated limit based on emission limitations</p> | <p>organic HAP emission rate (Equation 17 or 18 of <a href="#">§ 63.3370</a>) according to <a href="#">§ 63.3370(o)</a>.</p> <p>Follow the procedures set out in <a href="#">§ 63.3370(g)</a> to determine compliance with <a href="#">§ 63.3320(b)(3)</a> according to <a href="#">§ 63.3370(o)</a>.</p> <p>Follow the procedures set out in <a href="#">§ 63.3370(h)</a> to determine compliance with <a href="#">§ 63.3320(b)(2)</a> according to <a href="#">§ 63.3370(o)</a>.</p> <p>Follow the procedures set out in <a href="#">§ 63.3370(i)</a>. Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 17 or 18 of <a href="#">§ 63.3370</a>) according to <a href="#">§ 63.3370(o)</a>.</p> |
| (8) Use of non-HAP coatings  | <p>All coatings for all coating lines at an affected source have organic HAP contents below 0.1 percent by mass for OSHA-defined carcinogens as specified in section A.6.4 of appendix A to 29 CFR 1910.1200, and below 1.0 percent by mass for other organic HAP compounds</p>   | <p>Follow the procedures set out in <a href="#">§ 63.3370(s)</a>.</p>   |

**(b) *As-purchased “compliant” coating materials.***

(1) If you comply by using coating materials that individually meet the emission standards in [§ 63.3320\(b\)\(2\)](#) or [\(3\)](#), you must demonstrate that each coating material applied during the month at an existing affected source contains no more than 0.04 mass fraction organic HAP or 0.2 kg organic HAP per kg coating solids, and that each coating material applied during the month at a new affected source contains no more than 0.016 mass fraction organic HAP

or 0.08 kg organic HAP per kg coating solids on an as-purchased basis as determined in accordance with [§ 63.3360\(c\)](#).

(2) You are in compliance with emission standards in [§ 63.3320\(b\)\(2\)](#) and

(3) if each coating material applied at an existing affected source is applied as-purchased and contains no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and each coating material applied at a new affected source is applied as-purchased and contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids.

(c) ***As-applied “compliant” coating materials.*** If you comply by using coating materials that meet the emission standards in [§ 63.3320\(b\)\(2\)](#) or (3) as-applied, you must demonstrate compliance by following one of the procedures in [paragraphs \(c\)\(1\)](#) through (4) of this section. Compliance is determined in accordance with [paragraph \(c\)\(5\)](#) of this section.

(1) ***Each coating material as-applied meets the mass fraction of coating material standard (§ 63.3320(b)(2)).*** You must demonstrate that each coating material applied at an existing affected source during the month contains no more than 0.04 kg organic HAP per kg coating material applied, and each coating material applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material applied as determined in accordance with [paragraphs \(c\)\(1\)\(i\)](#) and (ii) of this section. You must calculate the as-applied organic HAP content of as-purchased coating materials which are reduced, thinned, or diluted prior to application.

(i) Determine the organic HAP content or volatile organic content of each coating material applied on an as-purchased basis in accordance with [§ 63.3360\(c\)](#).

(ii) Calculate the as-applied organic HAP content of each coating material using Equation 4:

$$C_{ahi} = \frac{\left( C_{hi}M_i + \sum_{j=1}^q C_{hj}M_j \right)}{M_i + \sum_{j=1}^q M_j}$$

Where:

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, kg/kg.



$C_{hi}$  = Organic HAP content of coating material, i, as-purchased, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material, i, applied in a month, kg.

$q$  = number of different materials added to the coating material.

$C_{hij}$  = Organic HAP content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg. or calculate the as-applied volatile organic content of each coating material using Equation 5:

$$C_{avi} = \frac{\left( C_{vi} M_i + \sum_{j=1}^q C_{vij} M_{ij} \right)}{M_i + \sum_{j=1}^q M_{ij}}$$

Where:

$C_{avi}$  = Monthly average, as-applied, volatile organic content of coating material, i, expressed as a mass fraction, kg/kg.

$C_{vi}$  = Volatile organic content of coating material, i, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material, i, applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{vij}$  = Volatile organic content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

(2) ***Each coating material as-applied meets the mass fraction of coating solids standard*** ([§ 63.3320\(b\)\(3\)](#)). You must demonstrate that each coating material applied at an existing affected source contains no more than 0.20 kg of organic HAP per kg of coating solids applied and each coating material applied at a new affected source contains no more than 0.08 kg of organic HAP per kg of coating solids applied. You must demonstrate compliance in accordance with [paragraphs \(c\)\(2\)\(i\)](#) and [\(ii\)](#) of this section.



(i) Determine the as-applied coating solids content of each coating material following the procedure in [§ 63.3360\(d\)](#). You must calculate the as-applied coating solids content of coating materials which are reduced, thinned, or diluted prior to application, using Equation 6:

$$C_{asi} = \frac{\left( C_{si}M_i + \sum_{j=1}^q C_{sij}M_{ij} \right)}{M_i + \sum_{j=1}^q M_{ij}}$$

Where:

$C_{si}$  = Coating solids content of coating material, i, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material, i, applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{sij}$  = Coating solids content of material, j, added to as-purchased coating material, i, expressed as a mass-fraction, kg/kg.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

(ii) Calculate the as-applied organic HAP to coating solids ratio using Equation 7:

$$H_{si} = \frac{C_{ahi}}{C_{asi}}$$

Where:

$H_{si}$  = As-applied, organic HAP to coating solids ratio of coating material, i.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, kg/kg.

$C_{asi}$  = Monthly average, as-applied, coating solids content of coating material, i, expressed as a mass fraction, kg/kg.

**(3) Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit ([§ 63.3320\(b\)\(2\)](#)).** Demonstrate that the monthly average as-applied organic HAP content of all coating materials applied at an existing affected source is less

than 0.04 kg organic HAP per kg of coating material applied, and all coating materials applied at a new affected source are less than 0.016 kg organic HAP per kg of coating material applied, as determined by Equation 8:

$$H_L = \frac{\sum_{i=1}^p C_{hi}M_i + \sum_{j=1}^q C_{hij}M_j - M_{\text{ret}}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_j}$$

Where:

$H_L$  = Monthly average, as-applied, organic HAP content of all coating materials applied, expressed as kg organic HAP per kg of coating material applied, kg/kg.

$p$  = Number of different coating materials applied in a month.

$C_{hi}$  = Organic HAP content of coating material,  $i$ , as-purchased, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{hij}$  = Organic HAP content of material,  $j$ , added to as-purchased coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material,  $j$ , added to as-purchased coating material,  $i$ , in a month, kg.

$M_{\text{ret}}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in [§ 63.3370](#).

**(4) *Monthly average organic HAP content of all coating materials as-applied is less than the mass fraction of coating solids limit (§ 63.3320(b)(3)).*** Demonstrate that the monthly average as-applied organic HAP content on the basis of coating solids applied of all coating materials applied at an existing affected source is less than 0.20 kg organic HAP per kg coating solids applied, and all coating materials applied at a new affected source are less than 0.08 kg organic HAP per kg coating solids applied, as determined by Equation 9:

$$H_s = \frac{\sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{\text{vret}}}{\sum_{i=1}^p C_{si} M_i + \sum_{j=1}^q C_{sij} M_{ij}}$$

Where:

$H_s$  = Monthly average, as-applied, organic HAP to coating solids ratio, kg organic HAP/kg coating solids applied.

$p$  = Number of different coating materials applied in a month.

$C_{hi}$  = Organic HAP content of coating material,  $i$ , as-purchased, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{hij}$  = Organic HAP content of material,  $j$ , added to as-purchased coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material,  $j$ , added to as-purchased coating material,  $i$ , in a month, kg.

$M_{\text{vret}}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in [§ 63.3370](#).

$C_{si}$  = Coating solids content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$C_{sij}$  = Coating solids content of material,  $j$ , added to as-purchased coating material,  $i$ , expressed as a mass-fraction, kg/kg.

(5) The affected source is in compliance with emission standards in [§ 63.3320\(b\)\(2\)](#) or [\(3\)](#) if:

(i) The organic HAP content of each coating material as-applied at an existing affected source is no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and the organic HAP content of each coating material as-applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids; or

(ii) The monthly average organic HAP content of all as-applied coating materials at an existing affected source are no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and the monthly average organic HAP content of all as-applied coating materials at a new affected source is no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids.

(d) **Monthly allowable organic HAP applied.** Demonstrate that the total monthly organic HAP applied as determined by Equation 10 is less than the calculated equivalent allowable organic HAP as determined by Equation 17 or 18 in [paragraph \(m\)](#) of this section:

$$H_m = \sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_j - M_{ret}$$

Where:

$H_m$  = Total monthly organic HAP applied, kg.

$p$  = Number of different coating materials applied in a month.

$C_{hi}$  = Organic HAP content of coating material,  $i$ , as-purchased, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{hij}$  = Organic HAP content of material,  $j$ , added to as-purchased coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material,  $j$ , added to as-purchased coating material,  $i$ , in a month, kg.

$M_{ret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in [§ 63.3370](#).

(e) **Accounting for volatile matter retained in the coated web or otherwise not emitted.** If you choose to use the equation in [§ 63.3360\(g\)](#) to take into account volatile organic matter that is retained in the coated web or otherwise not emitted, you must identify each group of similar products that can utilize each site- and product-specific emission factor. Details regarding the test methods and calculations are provided in [§ 63.3360\(g\)](#).

(f) **Capture and control to reduce emissions to no more than allowable limit ([§ 63.3320\(b\)\(1\)](#)).** Operate a capture system and control device and demonstrate an overall organic HAP control efficiency of at least 95 percent at an existing affected source and at least

98 percent at a new affected source for each month, or operate a capture system and oxidizer so that an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis is achieved as long as the capture efficiency is 100 percent as detailed in [§ 63.3320\(b\)\(4\)](#). Unless one of the cases described in [paragraph \(f\)\(1\)](#), [\(2\)](#), or [\(3\)](#) of this section applies to the affected source, you must either demonstrate compliance in accordance with the procedure in [paragraph \(i\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device, or the procedure in [paragraph \(l\)](#) of this section when emissions are controlled by an oxidizer or demonstrate compliance for a web coating line by operating each capture system and each control device and continuous parameter monitoring according to the procedures in [paragraph \(k\)](#) of this section.

(1) If the affected source has only always-controlled work stations and operates more than one capture system or more than one control device, you must demonstrate compliance in accordance with the provisions of either [paragraph \(o\)](#) or [\(q\)](#) of this section.

(2) If the affected source operates one or more never-controlled work stations or one or more intermittently-controlled work stations, you must demonstrate compliance in accordance with the provisions of [paragraph \(o\)](#) of this section.

(3) An alternative method of demonstrating compliance with [§ 63.3320\(b\)\(1\)](#) is the installation of a PTE around the web coating line that achieves 100 percent capture efficiency and ventilation of all organic HAP emissions from the total enclosure to an oxidizer with an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis. If this method is selected, you must demonstrate compliance by following the procedures in [paragraphs \(f\)\(3\)\(i\)](#) and [\(ii\)](#) of this section. Compliance is determined according to [paragraph \(f\)\(3\)\(iii\)](#) of this section.

(i) Demonstrate that a total enclosure is installed. An enclosure that meets the requirements in [§ 63.3360\(f\)\(1\)](#) will be considered a total enclosure.

(ii) Determine the organic HAP concentration at the outlet of your total enclosure using the procedures in [paragraph \(f\)\(3\)\(ii\)\(A\)](#) or [\(B\)](#) of this section.

(A) Determine the control device efficiency using Equation 2 of [§ 63.3360](#) and the applicable test methods and procedures specified in [§ 63.3360\(e\)](#).

(B) Use a CEMS to determine the organic HAP emission rate according to [paragraphs \(j\)\(2\)\(i\)](#) through [\(x\)](#) of this section.

(iii) You are in compliance if the installation of a total enclosure is demonstrated and the organic HAP concentration at the outlet of the incinerator is demonstrated to be no greater than 20 ppmv on a dry basis.

(g) ***Capture and control to achieve mass fraction of coating solids applied limit*** ([§ 63.3320\(b\)\(3\)](#)). Operate a capture system and control device and limit the organic HAP emission rate from an existing affected source to no more than 0.20 kg organic HAP emitted

per kg coating solids applied, and from a new affected source to no more than 0.08 kg organic HAP emitted per kg coating solids applied as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, then you must demonstrate compliance in accordance with the provisions of [paragraph \(o\)](#) of this section. Otherwise, you must demonstrate compliance following the procedure in [paragraph \(j\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in [paragraph \(l\)](#) of this section when emissions are controlled by an oxidizer.

(h) **Capture and control to achieve mass fraction limit (§ 63.3320(b)(2)).** Operate a capture system and control device and limit the organic HAP emission rate to no more than 0.04 kg organic HAP emitted per kg coating material applied at an existing affected source, and no more than 0.016 kg organic HAP emitted per kg coating material applied at a new affected source as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, then you must demonstrate compliance in accordance with the provisions of [paragraph \(o\)](#) of this section. Otherwise, you must demonstrate compliance following the procedure in [paragraph \(j\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in [paragraph \(l\)](#) of this section when emissions are controlled by an oxidizer.

(i) **Capture and control to achieve allowable emission rate.** Operate a capture system and control device and limit the monthly organic HAP emissions to less than the allowable emissions as calculated in accordance with [paragraph \(m\)](#) of this section. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, then you must demonstrate compliance in accordance with the provisions of [paragraph \(o\)](#) of this section. Otherwise, the owner or operator must demonstrate compliance following the procedure in [paragraph \(j\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in [paragraph \(l\)](#) of this section when emissions are controlled by an oxidizer.

(j) **Solvent recovery device compliance demonstration.** If you use a solvent recovery device to control emissions, you must show compliance by following the procedures in either [paragraph \(j\)\(1\)](#) or [\(2\)](#) of this section:

(1) **Liquid-liquid material balance.** Perform a monthly liquid-liquid material balance as specified in [paragraphs \(j\)\(1\)\(i\)](#) through [\(v\)](#) of this section and use the applicable equations in [paragraphs \(j\)\(1\)\(vi\)](#) through [\(ix\)](#) of this section to convert the data to units of the selected compliance option in [paragraphs \(f\)](#) through [\(i\)](#) of this section. Compliance is determined in accordance with [paragraph \(j\)\(1\)\(x\)](#) of this section.

(i) Determine the mass of each coating material applied on the web coating line or group of web coating lines controlled by a common solvent recovery device during the month.

(ii) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating material applied, or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each coating material as-applied during the month following the procedure in [§ 63.3360\(c\)](#).

(iii) Determine the volatile organic content of each coating material as-applied during the month following the procedure in [§ 63.3360\(d\)](#).

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, determine the coating solids content of each coating material applied during the month following the procedure in [§ 63.3360\(d\)](#).

(v) Determine and monitor the amount of volatile organic matter recovered for the month according to the procedures in [§ 63.3350\(d\)](#).

(vi) **Recovery efficiency.** Calculate the volatile organic matter collection and recovery efficiency using Equation 11:

$$R_v = \frac{M_{vr} + M_{vret}}{\sum_{i=1}^p C_{vi} M_i + \sum_{i=1}^q C_{vij} M_{ij}} \times 100$$

Where:

$R_v$  = Organic volatile matter collection and recovery efficiency, percent.

$M_{vr}$  = Mass of volatile matter recovered in a month, kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

$p$  = Number of different coating materials applied in a month.

$C_{vi}$  = Volatile organic content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{vij}$  = Volatile organic content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

(vii) **Organic HAP emitted.** Calculate the organic HAP emitted during the month using Equation 12:

$$H_e = \left[ 1 - \frac{R_v}{100} \right] \left[ \sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret} \right]$$

Where:

$H_e$  = Total monthly organic HAP emitted, kg.

$R_v$  = Organic volatile matter collection and recovery efficiency, percent.

$p$  = Number of different coating materials applied in a month.

$C_{hi}$  = Organic HAP content of coating material, i, as-purchased, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material, i, applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{hij}$  = Organic HAP content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

(viii) **Organic HAP emission rate based on coating solids applied.** Calculate the organic HAP emission rate based on coating solids applied using Equation 13:



$$L = \frac{H_e}{\sum_{i=1}^p C_{si} M_i + \sum_{j=1}^q C_{sij} M_{ij}}$$

Where:

$L$  = Mass organic HAP emitted per mass of coating solids applied, kg/kg.

$H_e$  = Total monthly organic HAP emitted, kg.

$p$  = Number of different coating materials applied in a month.

$C_{si}$  = Coating solids content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{sij}$  = Coating solids content of material,  $j$ , added to as-purchased coating material,  $i$ , expressed as a mass-fraction, kg/kg.

$M_{ij}$  = Mass of material,  $j$ , added to as-purchased coating material,  $i$ , in a month, kg.

(ix) **Organic HAP emission rate based on coating materials applied.** Calculate the organic HAP emission rate based on coating material applied using Equation 14:

$$S = \frac{H_e}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_{ij}}$$

Where:

$S$  = Mass organic HAP emitted per mass of material applied, kg/kg.

$H_e$  = Total monthly organic HAP emitted, kg.

$p$  = Number of different coating materials applied in a month.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

(x) You are in compliance with the emission standards in [§ 63.3320\(b\)](#) if:

(A) The volatile organic matter collection and recovery efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(B) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(C) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(D) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using [paragraph \(m\)](#) of this section.

**(2) *Continuous emission monitoring of capture system and control device performance.***

Demonstrate initial compliance through a performance test on capture efficiency and continuing compliance through continuous emission monitors and continuous monitoring of capture system operating parameters following the procedures in [paragraphs \(j\)\(2\)\(i\) through \(vii\)](#) of this section. Use the applicable equations specified in [paragraphs \(j\)\(2\)\(viii\) through \(x\)](#) of this section to convert the monitoring and other data into units of the selected compliance option in [paragraphs \(f\) through \(i\)](#) of this section. Compliance is determined in accordance with [paragraph \(j\)\(2\)\(xi\)](#) of this section.

(i) ***Control device efficiency.*** Continuously monitor the gas stream entering and exiting the control device to determine the total organic volatile matter mass flow rate (*e.g.*, by determining the concentration of the vent gas in grams per cubic meter and the volumetric flow rate in cubic meters per second such that the total organic volatile matter mass flow rate in grams per second can be calculated) such that the control device efficiency of the control device can be calculated for each month using Equation 2 of [§ 63.3360](#).

(ii) ***Capture efficiency monitoring.*** Whenever a web coating line is operated, continuously monitor the operating parameters established in accordance with [§ 63.3350\(f\)](#) to ensure capture efficiency.

(iii) Determine the percent capture efficiency in accordance with [§ 63.3360\(f\)](#).

(iv) ***Control efficiency.*** Calculate the overall organic HAP control efficiency achieved for each month using Equation 15:

$$R = \frac{(E)(CE)}{100}$$

Where:

R = Overall organic HAP control efficiency, percent.

E = Organic volatile matter control efficiency of the control device, percent.

CE = Organic volatile matter capture efficiency of the capture system, percent.

(v) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating materials applied, or emission of less than the calculated allowable organic HAP, determine the mass of each coating material applied on the web coating line or group of web coating lines controlled by a common control device during the month.

(vi) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating material applied, or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each coating material as-applied during the month following the procedure in [§ 63.3360\(c\)](#).

(vii) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, determine the coating solids content of each coating material as-applied during the month following the procedure in [§ 63.3360\(d\)](#).

(viii) **Organic HAP emitted.** Calculate the organic HAP emitted during the month for each month using Equation 16:

$$H_e = (1 - R) \left( \sum_{i=1}^p C_{ahi} M_i \right) - M_{\text{ret}}$$

Where:

$H_e$  = Total monthly organic HAP emitted, kg.

R = Overall organic HAP control efficiency, percent.

p = Number of different coating materials applied in a month.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material, i, applied in a month, kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

(ix) **Organic HAP emission rate based on coating solids applied.** Calculate the organic HAP emission rate based on coating solids applied using Equation 13 of this section.

(x) **Organic HAP emission rate based on coating materials applied.** Calculate the organic HAP emission rate based on coating material applied using Equation 14 of this section.

(xi) **Compare actual performance to the performance required by compliance option.** The affected source is in compliance with the emission standards in [§ 63.3320\(b\)](#) for each month if the capture system is operated such that the average capture system operating parameter is greater than or less than (as appropriate) the operating parameter value established in accordance with [§ 63.3350\(f\)](#); and

(A) The organic volatile matter collection and recovery efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(B) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(C) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(D) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using [paragraph \(m\)](#) of this section.

(k) **Capture and control system compliance demonstration procedures using a CPMS.** If you use an add-on control device, you must demonstrate initial compliance for each capture system and each control device through performance tests and demonstrate continuing compliance through continuous monitoring of capture system and control device operating parameters as specified in [paragraphs \(k\)\(1\) through \(3\)](#) of this section. Compliance is determined in accordance with [paragraph \(k\)\(4\)](#) or [\(k\)\(5\)](#) of this section.

(1) Determine the control device destruction or removal efficiency using the applicable test methods and procedures in [§ 63.3360\(e\)](#).

(2) Determine the emission capture efficiency in accordance with [§ 63.3360\(f\)](#).

(3) Whenever a web coating line is operated, continuously monitor the operating parameters established according to [§ 63.3350\(e\)](#) and [\(f\)](#).

(4) ***No operating limit deviations.*** You are in compliance with the emission standards in [§ 63.3320\(b\)](#) if the thermal oxidizer is operated such that the average combustion temperature does not fall more than 50 degrees Fahrenheit below the temperature established in accordance with [§ 63.3360\(e\)\(3\)\(i\)](#) for each 3-hour period or if the catalytic oxidizer is operating such that the three-hour average temperature difference across the bed does not fall more than 80 percent of the average temperature established in accordance with [§ 63.3360\(e\)\(3\)\(ii\)](#) and the minimum temperature is always 50 degrees Fahrenheit above the catalyst's ignition temperature, or the catalytic oxidizer average combustion temperature does not fall more than 50 °F below the temperature established in accordance with [§ 63.3360\(e\)\(3\)\(ii\)](#) for each 3-hour period, and the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with [§ 63.3350\(f\)](#); and

(i) The overall organic HAP control efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(ii) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(iii) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(iv) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using [paragraph \(m\)](#) of this section.

(5) ***Operating limit deviations.*** If one or more operating limit deviations occurred during the monthly averaging period, compliance with the emission standards in [§ 63.3320\(b\)](#) is determined by either assuming no control of emissions or by estimating the emissions using a control destruction efficiency curve during each 3-hour period that was a deviation. You are in compliance with the emission standards in [§ 63.3320\(b\)](#) if, including the periods of deviations:

(i) The overall organic HAP control efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(ii) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(iii) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(iv) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using [paragraph \(m\)](#) of this section.

(l) ***Oxidizer compliance demonstration procedures.*** If you use an oxidizer to control emissions to comply with this subpart, you must show compliance by following the procedures in [paragraph \(l\)\(1\)](#) of this section. Use the applicable equations specified in [paragraph \(l\)\(2\)](#) of this section to convert the monitoring and other data into units of the selected compliance option in [paragraph \(f\)](#) through [\(i\)](#) of this section. Compliance is determined in accordance with [paragraph \(l\)\(3\)](#) or [\(l\)\(4\)](#) of this section.

(1) Demonstrate initial compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters as specified in [paragraphs \(l\)\(1\)\(i\)](#) through [\(vi\)](#) of this section:

(i) Determine the oxidizer destruction efficiency using the procedure in [§ 63.3360\(e\)](#).

(ii) Determine the capture system capture efficiency in accordance with [§ 63.3360\(f\)](#).

(iii) ***Capture and control efficiency monitoring.*** Whenever a web coating line is operated, continuously monitor the operating parameters established in accordance with [§ 63.3350\(e\)](#) and [\(f\)](#) to ensure capture and control efficiency.

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating materials applied, or emission of less than the calculated allowable organic HAP, determine the mass of each coating material applied on the web coating line or group of web coating lines controlled by a common oxidizer during the month.

(v) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating material applied, or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each coating material as-applied during the month following the procedure in [§ 63.3360\(c\)](#).

(vi) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, determine the coating solids content of each coating material applied during the month following the procedure in [§ 63.3360\(d\)](#).

(2) Convert the information obtained under [paragraph \(q\)\(1\)](#) of this section into the units of the selected compliance option using the calculation procedures specified in [paragraphs \(l\)\(2\)\(i\)](#) through [\(iv\)](#) of this section.

(i) **Control efficiency.** Calculate the overall organic HAP control efficiency achieved using Equation 15.

(ii) **Organic HAP emitted.** Calculate the organic HAP emitted during the month using Equation 16.

(iii) **Organic HAP emission rate based on coating solids applied.** Calculate the organic HAP emission rate based on coating solids applied for each month using Equation 13.

(iv) **Organic HAP emission rate based on coating materials applied.** Calculate the organic HAP emission rate based on coating material applied using Equation 14.

(3) **No operating limit deviations.** You are in compliance with the emission standards in [§ 63.3320\(b\)](#) if the oxidizer is operated such that the average combustion temperature does not fall more than 50 degrees Fahrenheit below the temperature established in accordance with [§ 63.3360\(e\)\(3\)\(i\)](#) for each 3-hour period, or the catalytic oxidizer average combustion temperature does not fall more than 50 degrees Fahrenheit below the temperature established in accordance with [§ 63.3360\(e\)\(3\)\(ii\)](#) for each 3-hour period or the temperature difference across the bed does not fall more than 80 percent of the average temperature established in accordance with [§ 63.3360\(e\)\(3\)\(ii\)](#) and the minimum temperature is always 50 degrees Fahrenheit above the catalyst's ignition temperature, and the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with [§ 63.3350\(f\)](#); and

(i) The overall organic HAP control efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(ii) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(iii) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(iv) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using [paragraph \(m\)](#) of this section.

(4) **Operating limit deviations.** If one or more operating limit deviations occurred during the monthly averaging period, compliance with the emission standards in [§ 63.3320\(b\)](#) is determined by assuming no control of emissions or by estimating the emissions using a control destruction efficiency curve during each 3-hour period that was a deviation. You are

in compliance with the emission standards in [§ 63.3320\(b\)](#) if, including the periods of deviation:

- (i) The overall organic HAP control efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or
  - (ii) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or
  - (iii) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or
  - (iv) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using [paragraph \(m\)](#) of this section.
- (m) ***Monthly allowable organic HAP emissions.*** This paragraph provides the procedures and calculations for determining monthly allowable organic HAP emissions for use in demonstrating compliance in accordance with [paragraph \(d\)](#), [\(i\)](#), [\(j\)\(1\)\(x\)\(D\)](#), [\(j\)\(2\)\(xi\)\(D\)](#), or [\(1\)\(3\)\(iv\)](#) of this section. You will need to determine the amount of coating material applied at greater than or equal to 20 mass percent coating solids and the amount of coating material applied at less than 20 mass percent coating solids. The allowable organic HAP limit is then calculated based on coating material applied at greater than or equal to 20 mass percent coating solids complying with 0.2 kg organic HAP per kg coating solids at an existing affected source or 0.08 kg organic HAP per kg coating solids at a new affected source, and coating material applied at less than 20 mass percent coating solids complying with 4 mass percent organic HAP at an existing affected source and 1.6 mass-percent organic HAP at a new affected source as follows:
- (1) Determine the as-purchased mass of each coating material applied each month.
  - (2) Determine the as-purchased coating solids content of each coating material applied each month in accordance with [§ 63.3360\(d\)\(1\)](#).
  - (3) Determine the as-purchased mass fraction of each coating material which was applied at 20 mass percent or greater coating solids content on an as-applied basis.
  - (4) Determine the total mass of each solvent, diluent, thinner, or reducer added to coating materials which were applied at less than 20 mass percent coating solids content on an as-applied basis each month.
  - (5) Calculate the monthly allowable organic HAP emissions using Equation 17 for an existing affected source:



$$H_a = 0.20 \left[ \sum_{i=1}^p M_i G_i C_{si} \right] + 0.04 \left[ \sum_{i=1}^p M_i (1 - G_i) + \sum_{j=1}^q M_{L_j} \right]$$

Where:

$H_a$  = Monthly allowable organic HAP emissions, kg.

$p$  = Number of different coating materials applied in a month.

$M_i$  = mass of as-purchased coating material,  $i$ , applied in a month, kg.

$G_i$  = Mass fraction of each coating material,  $i$ , which was applied at 20 mass percent or greater coating solids content, on an as-applied basis, kg/kg.

$C_{si}$  = Coating solids content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$q$  = Number of different materials added to the coating material.

$M_{L_j}$  = Mass of non-coating-solids-containing coating material,  $j$ , added to coating-solids-containing coating materials which were applied at less than 20 mass percent coating solids content, on an as-applied basis, in a month, kg.

or Equation 18 for a new affected source:

$$H_a = 0.08 \left[ \sum_{i=1}^p M_i G_i C_{si} \right] + 0.016 \left[ \sum_{i=1}^p M_i (1 - G_i) + \sum_{j=1}^q M_{L_j} \right]$$

Where:

$H_a$  = Monthly allowable organic HAP emissions, kg.

$p$  = Number of different coating materials applied in a month.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$G_i$  = Mass fraction of each coating material,  $i$ , which was applied at 20 mass percent or greater coating solids content, on an as-applied basis, kg/kg.

$C_{si}$  = Coating solids content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$q$  = Number of different materials added to the coating material.

$M_{L,j}$  = Mass of non-coating-solids-containing coating material, j, added to coating-solids-containing coating materials which were applied at less than 20 mass percent coating solids content, on an as-applied basis, in a month, kg.

(n) [Reserved]

(o) ***Combinations of capture and control.*** If you operate more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, you must calculate organic HAP emissions according to the procedures in [paragraphs \(o\)\(1\) through \(4\)](#) of this section, and use the calculation procedures specified in [paragraph \(o\)\(5\)](#) of this section to convert the monitoring and other data into units of the selected control option in [paragraphs \(f\) through \(i\)](#) of this section. Use the procedures specified in [paragraph \(o\)\(6\)](#) of this section to demonstrate compliance.

***(1) Solvent recovery system using liquid-liquid material balance compliance demonstration.*** If you choose to comply by means of a liquid-liquid material balance for each solvent recovery system used to control one or more web coating lines, you must determine the organic HAP emissions for those web coating lines controlled by that solvent recovery system either:

- (i) In accordance with [paragraphs \(j\)\(1\)\(i\) through \(iii\)](#) and [\(v\) through \(vii\)](#) of this section, if the web coating lines controlled by that solvent recovery system have only always-controlled work stations; or
- (ii) In accordance with [paragraphs \(j\)\(1\)\(ii\), \(iii\), \(v\), and \(vi\)](#) and [\(p\)](#) of this section, if the web coating lines controlled by that solvent recovery system have one or more never-controlled or intermittently-controlled work stations.

***(2) Solvent recovery system using performance test compliance demonstration and CEMS.*** To demonstrate compliance through an initial test of capture efficiency, continuous monitoring of a capture system operating parameter, and a CEMS on each solvent recovery system used to control one or more web coating lines, you must:

- (i) For each capture system delivering emissions to that solvent recovery system, monitor the operating parameter established in accordance with [§ 63.3350\(f\)](#) to ensure capture system efficiency; and
- (ii) Determine the organic HAP emissions for those web coating lines served by each capture system delivering emissions to that solvent recovery system either:
  - (A) In accordance with [paragraphs \(j\)\(2\)\(i\) through \(iii\), \(v\), \(vi\), and \(viii\)](#) of this section, if the web coating lines served by that capture and control system have only always-controlled work stations; or

(B) In accordance with [paragraphs \(j\)\(2\)\(i\) through \(iii\), \(vi\), and \(p\)](#) of this section, if the web coating lines served by that capture and control system have one or more never-controlled or intermittently-controlled work stations.

(3) **Oxidizer.** To demonstrate compliance through performance tests of capture efficiency and control device efficiency, continuous monitoring of capture system, and CPMS for control device operating parameters for each oxidizer used to control emissions from one or more web coating lines, you must:

(i) Monitor the operating parameter in accordance with [§ 63.3350\(e\)](#) to ensure control device efficiency; and

(ii) For each capture system delivering emissions to that oxidizer, monitor the operating parameter established in accordance with [§ 63.3350\(f\)](#) to ensure capture efficiency; and

(iii) Determine the organic HAP emissions for those web coating lines served by each capture system delivering emissions to that oxidizer either:

(A) In accordance with [paragraphs \(l\)\(1\)\(i\) through \(vi\)](#) of this section, if the web coating lines served by that capture and control system have only always-controlled work stations; or

(B) In accordance with [paragraphs \(l\)\(1\)\(i\) through \(iii\), \(v\), and \(p\)](#) of this section, if the web coating lines served by that capture and control system have one or more never-controlled or intermittently-controlled work stations.

(4) **Uncontrolled coating lines.** If you own or operate one or more uncontrolled web coating lines, you must determine the organic HAP applied on those web coating lines using Equation 10. The organic HAP emitted from an uncontrolled web coating line is equal to the organic HAP applied on that web coating line.

(5) Convert the information obtained under [paragraphs \(o\)\(1\) through \(4\)](#) of this section into the units of the selected compliance option using the calculation procedures specified in [paragraphs \(o\)\(5\)\(i\) through \(iv\)](#) of this section.

(i) **Organic HAP emitted.** Calculate the organic HAP emissions for the affected source for the month by summing all organic HAP emissions calculated according to [paragraphs \(o\)\(1\), \(o\)\(2\)\(ii\), \(o\)\(3\)\(iii\), and \(o\)\(4\)](#) of this section.

(ii) **Coating solids applied.** If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, the owner or operator must determine the coating solids content of each coating material applied during the month following the procedure in [§ 63.3360\(d\)](#).

(iii) **Organic HAP emission rate based on coating solids applied.** Calculate the organic HAP emission rate based on coating solids applied for each month using Equation 13.

(iv) **Organic HAP based on materials applied.** Calculate the organic HAP emission rate based on material applied using Equation 14.

(6) **Compliance.** The affected source is in compliance with the emission standards in [§ 63.3320\(b\)](#) for the month if all operating parameters required to be monitored under [paragraphs \(o\)\(1\)](#) through [\(3\)](#) of this section were maintained at the values established under [§§ 63.3350](#) and [63.3360](#) and one of the standards in [paragraphs \(o\)\(6\)\(i\)](#) through [\(iv\)](#) of this section were met. If operating parameter deviations occurred, the affected source is in compliance with the emission standards in [§ 63.3320\(b\)](#) for the month if, assuming no control of emissions or by estimating the emissions using a control destruction efficiency curve for each 3-hour deviation period, one of the standards in [paragraphs \(6\)\(i\)](#) through [\(iv\)](#) of this section were met.

(i) The total mass of organic HAP emitted by the affected source based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(ii) The total mass of organic HAP emitted by the affected source based on material applied is no more than 0.04 kg organic HAP per kg material applied at an existing affected source and no more than 0.016 kg organic HAP per kg material applied at a new affected source; or

(iii) The total mass of organic HAP emitted by the affected source during the month is less than the calculated allowable organic HAP as determined using [paragraph \(m\)](#) of this section; or

(iv) The total mass of organic HAP emitted by the affected source was not more than 5 percent of the total mass of organic HAP applied for the month at an existing affected source and no more than 2 percent of the total mass of organic HAP applied for the month at a new affected source. The total mass of organic HAP applied by the affected source in the month must be determined using Equation 10.

(p) **Intermittently-controlled and never-controlled work stations.** If you have been expressly referenced to this paragraph by [paragraph \(o\)\(1\)\(ii\)](#), [\(o\)\(2\)\(ii\)\(B\)](#), or [\(o\)\(3\)\(iii\)\(B\)](#) of this section for calculation procedures to determine organic HAP emissions for your intermittently-controlled and never-controlled work stations, you must:

(1) Determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in bypass mode and the mass of all coating materials as-applied on never-controlled work stations during the month.

(2) Determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in a controlled mode and the mass of all coating materials applied on always-controlled work stations during the month.

(3) **Liquid-liquid material balance compliance demonstration.** For each web coating line or group of web coating lines for which you use the provisions of [paragraph \(o\)\(1\)\(ii\)](#) of this section, you must calculate the organic HAP emitted during the month using Equation 19 of this section:

$$H_e = \left[ \sum_{i=1}^p M_{ci} C_{ahi} \right] \left[ 1 - \frac{R_v}{100} \right] + \left[ \sum_{i=1}^p M_{Bi} C_{ahi} \right] - M_{vret}$$

Where:

$H_e$  = Total monthly organic HAP emitted, kg.

$p$  = Number of different coating materials applied in a month.

$M_{ci}$  = Sum of the mass of coating material,  $i$ , as-applied on intermittently-controlled work stations operating in controlled mode and the mass of coating material,  $i$ , as-applied on always-controlled work stations, in a month, kg.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$R_v$  = Organic volatile matter collection and recovery efficiency, percent.

$M_{Bi}$  = Sum of the mass of coating material,  $i$ , as-applied on intermittently-controlled work stations operating in bypass mode and the mass of coating material,  $i$ , as-applied on never-controlled work stations, in a month, kg.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

(4) **Performance test to determine capture efficiency and control device efficiency.** For each web coating line or group of web coating lines for which you use the provisions of [paragraph \(o\)\(2\)\(ii\)\(B\)](#) or [\(o\)\(3\)\(iii\)\(B\)](#) of this section, you must calculate the organic HAP emitted during the month using Equation 20:

$$H_e = \left[ \sum_{i=1}^p M_{ci} C_{ahi} \right] \left[ 1 - \frac{R}{100} \right] + \left[ \sum_{i=1}^p M_{Bi} C_{ahi} \right] - M_{vret}$$

Where:

$H_e$  = Total monthly organic HAP emitted, kg.

$p$  = Number of different coating materials applied in a month.

$M_{ci}$  = Sum of the mass of coating material,  $i$ , as-applied on intermittently-controlled work stations operating in controlled mode and the mass of coating material,  $i$ , as-applied on always-controlled work stations, in a month, kg.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$R$  = Overall organic HAP control efficiency, percent.

$M_{Bi}$  = Sum of the mass of coating material,  $i$ , as-applied on intermittently-controlled work stations operating in bypass mode and the mass of coating material,  $i$ , as-applied on never-controlled work stations, in a month, kg.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

(q) ***Always-controlled work stations with more than one capture and control system.*** If you operate more than one capture system or more than one control device and only have always-controlled work stations, then you are in compliance with the emission standards in [§ 63.3320\(b\)\(1\)](#) for the month if for each web coating line or group of web coating lines controlled by a common control device:

(1) The volatile matter collection and recovery efficiency as determined by [paragraphs \(j\)\(1\)\(i\), \(iii\), \(v\), and \(vi\)](#) of this section is at least 95 percent at an existing affected source and at least 98 percent at a new affected source; or

(2) The overall organic HAP control efficiency as determined by [paragraphs \(j\)\(2\)\(i\) through \(iv\)](#) of this section for each web coating line or group of web coating lines served by that control device and a common capture system is at least 95 percent at an existing affected source and at least 98 percent at a new affected source; or

(3) The overall organic HAP control efficiency as determined by [paragraphs \(l\)\(1\)\(i\) through \(iii\) and \(l\)\(2\)\(i\)](#) of this section for each web coating line or group of web coating lines served by that control device and a common capture system is at least 95 percent at an existing affected source and at least 98 percent at a new affected source.

(r) **Mass-balance approach.** As an alternative to [§ 63.3370\(b\)](#) through (p), you may demonstrate monthly compliance using a mass-balance approach in accordance with this section, except for any month that you elect to meet the emission limitation in [§ 63.3320\(b\)\(4\)](#). The mass-balance approach should be performed as follows:

(1) Separately for each individual/grouping(s) of lines, you must sum the mass of organic HAP emitted during the month and divide by the corresponding total mass of all organic HAP applied on the lines, or total mass of coating materials applied on the lines, or total mass of coating solids applied on the lines, for the same period, in accordance with the emission limitation that you have elected at [§ 63.3320\(b\)\(1\)](#) through (3) for the month's demonstration. You may also choose to use volatile organic content as a surrogate for organic HAP for the compliance demonstration in accordance with [§ 63.3360\(d\)](#). You are required to include all emissions and inputs that occur during periods that each line or grouping of lines operates in accordance with the applicability criteria in [§ 63.3300](#).

(2) You must include all of the organic HAP emitted by your individual/grouping(s) of lines, as follows.

(i) You must record the mass of organic HAP or volatile organic content utilized at all work stations of all of your individually/grouping(s) of lines. You must additionally record the mass of all coating materials applied at these work stations if you are demonstrating compliance for the month with the emission limitation at [§ 63.3320\(b\)\(2\)](#) (the “coating materials” option). You must additionally record the mass of all coating solids applied at these work stations if you are demonstrating compliance for the month with the emission limitation at [§ 63.3320\(b\)\(3\)](#) (the “coating solids” option).

(ii) You must assume that all of the organic HAP input to all never-controlled work stations is emitted, unless you have determined an emission factor in accordance with [§ 63.3360\(g\)](#).

(iii) For all always-controlled work stations, you must assume that all of the organic HAP or volatile organic content is emitted, less the reductions provided by the corresponding capture system and control device, in accordance with the most recently measured capture and destruction efficiencies, or in accordance with the measured mass of volatile organic compounds (VOC) recovered for the month (*e.g.*, carbon control or condensers). You may account for organic HAP or volatile organic content retained in the coated web or otherwise not emitted if you have determined an emission factor in accordance with [§ 63.3360\(g\)](#).

(iv) For all intermittently-controlled work stations, you must assume that all of the organic HAP or volatile organic content is emitted during periods of no control. During periods of control, you must assume that all of the organic HAP or volatile organic content is emitted, less the reductions provided by the corresponding capture system and control device, in accordance with the most recently measured capture and destruction efficiencies, or in accordance with the measured mass of VOC recovered for the month (*e.g.*, carbon control or condensers). You may account for organic HAP or volatile organic content retained in



the coated web or otherwise not emitted if you have determined an emission factor in accordance with [§ 63.3360\(g\)](#).

(v) You must record the organic HAP or volatile organic content input to all work stations of your individual/grouping(s) of lines and the mass of coating materials and/or solids applied, if applicable, and determine corresponding emissions during all periods of operation, including malfunctions or startups and shutdowns of any web coating line or control device.

(3) You are in compliance with the emission standards in [§ 63.3320\(b\)](#) if each of your individual/grouping(s) of lines, meets one of the requirements in [paragraphs \(r\)\(3\)\(i\) through \(iii\)](#) of this section, as applicable. If operating parameter limit deviations occurred, including periods that the oxidizer control device(s), if any, operated at an average combustion temperature more than 50 degrees Fahrenheit below the temperature established in accordance with [§ 63.3360\(e\)](#), or the 3-hour average temperature difference across the catalyst bed at no less than 80 percent of this average temperature differential and the catalytic oxidizer maintained a minimum temperature 50 degrees Fahrenheit above the catalyst's ignition temperature, you are in compliance with the emission standards in [§ 63.3320\(b\)](#) for the month, if assuming no control of emissions for each 3-hour deviation period (or in accordance with an alternate approved method), one of the requirements in [paragraphs \(r\)\(3\)\(i\) through \(iii\)](#) of this section was met.

(i) The total mass of organic HAP emitted by the affected source based on HAP applied is no more than 0.05 kg organic HAP per kg HAP applied at an existing affected source and no more than 0.02 kg organic HAP per kg HAP applied at a new affected source; or

(ii) The total mass of organic HAP emitted by the affected source based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(iii) The total mass of organic HAP emitted by the affected source based on material applied is no more than 0.04 kg organic HAP per kg material applied at an existing affected source and no more than 0.016 kg organic HAP per kg material applied at a new affected source.

(s) **Non-HAP coating.** You must demonstrate that all of the coatings applied at all of the web coating lines at the affected source have organic HAP contents below 0.1 percent by mass for OSHA-defined carcinogens as specified in section A.6.4 of appendix A to 29 CFR 1910.1200, and below 1.0 percent by mass for other organic HAP compounds using the procedures in [§ 63.3370\(s\)\(1\) through \(3\)](#).

(1) Determine the organic HAP mass fraction of each coating material “as purchased” by following one of the procedures in [paragraphs § 63.3360\(c\)\(1\) through \(3\)](#) and determine the organic HAP mass fraction of each coating material “as applied” by following the procedures in [paragraph § 63.3360\(c\)\(4\)](#).



(2) Submit to your permitting authority a report certifying that all coatings applied at all of the web coating lines at your effected source are non-HAP coatings.

(3) Maintain records of coating formulations used as required in [§ 63.3410\(a\)\(1\)\(iii\)](#).

(4) Resume reporting requirements if any of the coating formulations are modified to exceed the thresholds in [§ 63.3370\(s\)](#) or new coatings which exceed the thresholds in [paragraph \(s\)](#) of this section are used.

[[67 FR 72341](#), Dec. 4, 2002, as amended at [85 FR 41301](#), July 9, 2020]

#### Notifications, Reports, and Records

### § 63.3400 What notifications and reports must I submit?

(a) **Reports.** Each owner or operator of an affected source subject to this subpart must submit the reports specified in [paragraphs \(b\)](#) through [\(k\)](#) of this section to the Administrator.

(b) **Initial notifications.** You must submit an initial notification as required by [§ 63.9\(b\)](#), using the procedure in [§ 63.3400\(h\)](#).

(1) Initial notification for existing affected sources must be submitted no later than 1 year before the compliance date specified in [§ 63.3330\(a\)](#), or no later than 120 days after the source becomes subject to this subpart, whichever is later.

(2) Initial notification for new and reconstructed affected sources must be submitted as required by [§ 63.9\(b\)](#).

(3) For the purpose of this subpart, a title V or part 70 permit application may be used in lieu of the initial notification required under [§ 63.9\(b\)](#), provided the same information is contained in the permit application as required by [§ 63.9\(b\)](#) and the State to which the permit application has been submitted has an approved operating permit program under [part 70 of this chapter](#) and has received delegation of authority from the EPA to implement and enforce this subpart.

(4) If you are using a permit application in lieu of an initial notification in accordance with [paragraph \(b\)\(3\)](#) of this section, the permit application must be submitted by the same due date specified for the initial notification.

(c) You must submit a semiannual compliance report according to [paragraphs \(c\)\(1\)](#) and [\(2\)](#) of this section.

(1) Compliance report dates.

(i) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in [§ 63.3330](#) and ending on June 30 or December 31,

whichever date is the first date following the end of the calendar half immediately following the compliance date that is specified for your affected source in [§ 63.3330](#).

(ii) The first compliance report is due no later than July 31 or January 31, whichever date follows the end of the calendar half immediately following the compliance date that is specified for your affected source in [§ 63.3330](#). Prior to the electronic template being available in CEDRI for one year, the report must be postmarked or delivered by the aforementioned dates. After the electronic template has been available in CEDRI for 1 year, the next full report must be submitted electronically as described in [paragraph \(h\)](#) of this section.

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(v) For each affected source that is subject to permitting regulations pursuant to [40 CFR part 70](#) or [40 CFR part 71](#), and the permitting authority has established dates for submitting semiannual reports pursuant to [§ 70.6\(a\)\(3\)\(iii\)\(A\)](#) or [§ 71.6\(a\)\(3\)\(iii\)\(A\)](#), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in [paragraphs \(c\)\(1\)\(i\)](#) through [\(iv\)](#) of this section.

(2) ***Compliance report contents.*** The compliance report must contain the information in [paragraphs \(c\)\(2\)\(i\)](#) through [\(viii\)](#) of this section:

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature certifying the accuracy of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) If there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period, and that no CMS was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

(v) For each deviation from an emission limitation (emission limit or operating limit) that applies to you and that occurs at an affected source where you are not using a CMS to comply with the emission limitations in this subpart, the compliance report must contain the following information:

(A) The total operating time of the web coating line(s) during the reporting period.

(B) Information on the number, duration, and cause of deviations (including unknown cause), if applicable, and the corrective action taken.

(C) An estimate of the quantity of each regulated pollutant emitted over the emission limits in [§ 63.3320](#) for each monthly period covered in the report if the source failed to meet an applicable emission limit of this subpart.

(vi) For each deviation from an emission limit occurring at an affected source where you are using a CEMS or CPMS to comply with the emission limit in this subpart, you must include the following information:

(A) The total operating time of the web coating line(s) during the reporting period.

(B) The date and time that each CEMS and CPMS, if applicable, was inoperative except for zero (low-level) and high-level checks.

(C) The date and time that each CEMS and CPMS, if applicable, was out-of-control, including the information in [§ 63.8\(c\)\(8\)](#).

(D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(E) A summary of the total duration (in hours) of each deviation during the reporting period and the total duration of each deviation as a percent of the total source operating time during that reporting period.

(F) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(G) A summary of the total duration (in hours) of CEMS and/or CPMS downtime during the reporting period and the total duration of CEMS and/or CPMS downtime as a percent of the total source operating time during that reporting period.

(H) A breakdown of the total duration of CEMS and/or CPMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes.

(I) The date of the latest CEMS and/or CPMS certification or audit.

(J) A description of any changes in CEMS, CPMS, or controls since the last reporting period.

(K) An estimate of the quantity of each regulated pollutant emitted over the emission limits in [§ 63.3320](#) for each monthly period covered in the report if the source failed to meet an applicable emission limit of this subpart.

(d) You must submit a Notification of Performance Tests as specified in [§§ 63.7](#) and [63.9\(e\)](#) if you are complying with the emission standard using a control device and you are required to conduct a performance test of the control device. This notification and the site-specific test plan required under [§ 63.7\(c\)\(2\)](#) must identify the operating parameters to be monitored to ensure that the capture efficiency of the capture system and the control efficiency of the control device determined during the performance test are maintained. Unless EPA objects to the parameter or requests changes, you may consider the parameter approved.

(e) **Notification of Compliance Status.** You must submit a Notification of Compliance Status as specified in [§ 63.9\(h\)](#). For affected sources that commence construction or reconstruction after September 19, 2019, the Notification of Compliance Status must be submitted electronically using the procedure in [paragraph \(h\)](#) of this section. For affected sources that commenced construction or reconstruction on or before September 19, 2019, the Notification of Compliance Status must be submitted electronically using the procedure in [paragraph \(h\)](#) starting July 9, 2021.

(f) **Performance test reports.** You must submit performance test reports as specified in [§ 63.10\(d\)\(2\)](#) if you are using a control device to comply with the emission standard and you have not obtained a waiver from the performance test requirement or you are not exempted from this requirement by [§ 63.3360\(b\)](#). Catalyst activity test results are not required to be submitted but must be maintained onsite. Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in [paragraphs \(f\)\(1\)](#) through [\(3\)](#) of this section. For affected sources that commence construction or reconstruction after September 19, 2019, the performance test reports must be submitted electronically using the procedure in [paragraph \(h\)](#) of this section. For affected sources that commenced construction or reconstruction on or before September 19, 2019, the performance test reports must be submitted electronically using the procedure in [paragraph \(h\)](#) starting July 9, 2021.

(1) **Data collected using test methods supported by EPA's Electronic Reporting Tool (ERT) as listed on EPA's ERT website (<https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>) at the time of the test.** Submit the results of the performance test to EPA via CEDRI, which can be accessed through EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). The data must be submitted in a file format generated through the use of EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on EPA's ERT website.

(2) **Data collected using test methods that are not supported by EPA's ERT as listed on EPA's ERT website at the time of the test.** The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on EPA's ERT website. Submit the ERT generated package or alternative file to EPA via CEDRI.

(3) **Confidential business information (CBI).** If you claim some of the information submitted under [paragraph \(f\)\(1\)](#) of this section is CBI, you must submit a complete file, including information claimed to be CBI, to EPA. The file must be generated through the use of EPA's ERT or an alternate electronic file consistent with the XML schema listed on EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to EPA via EPA's CDX as described in [paragraph \(f\)\(1\)](#) of this section.

(g) **Performance evaluation reports.** You must submit the results of performance evaluations within 60 days of completing each CMS performance evaluation (as defined in [§ 63.2](#)) following the procedures specified in [paragraphs \(g\)\(1\)](#) through [\(3\)](#) of this section. For affected sources that commence construction or reconstruction after September 19, 2019, the performance evaluation reports must be submitted electronically using the procedure in [paragraph \(h\)](#) of this section. For affected sources that commenced construction or reconstruction on or before September 19, 2019, the performance evaluation reports must be submitted electronically using the procedure in paragraph (h) starting July 9, 2021.

(1) **Performance evaluations of CMS measuring relative accuracy test audit (RATA) pollutants that are supported by EPA's ERT as listed on EPA's ERT website at the time of the evaluation.** Submit the results of the performance evaluation to EPA via CEDRI, which can be accessed through EPA's CDX. The data must be submitted in a file format generated through the use of EPA's ERT. Alternatively, you may submit an electronic file consistent with the XML schema listed on EPA's ERT website.

(2) **Performance evaluations of CMS measuring RATA pollutants that are not supported by EPA's ERT as listed on EPA's ERT website at the time of the evaluation.** The results of the performance evaluation must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on EPA's ERT website. Submit the ERT generated package or alternative file to EPA via CEDRI.

(3) **Confidential business information (CBI).** If you claim some of the information submitted under [paragraph \(g\)\(1\)](#) of this section is CBI, you must submit a complete file, including information claimed to be CBI, to EPA. The file must be generated through the use of EPA's ERT or an alternate electronic file consistent with the XML schema listed on EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to EPA via EPA's CDX as described in [paragraph \(g\)\(1\)](#) of this section.

(h) **Electronic reporting.** If you are required to submit reports following the procedure specified in this paragraph, you must submit reports to EPA via CEDRI, which can be accessed

through EPA's CDX (<https://cdx.epa.gov/>). Initial notifications and notifications of compliance status must be submitted as portable document formats (PDF) to CEDRI using the attachment module of the ERT. You must use the semiannual compliance report template on the CEDRI website (<https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri>) for this subpart 1 year after it becomes available. The date report templates become available will be listed on the CEDRI website. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. If you claim some of the information required to be submitted via CEDRI is CBI, submit a complete report, including information claimed to be CBI to EPA. The report must be generated using the appropriate form on the CEDRI website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to EPA via EPA's CDX as described earlier in this paragraph.

(i) ***Extension for CDX/CEDRI outage.*** If you are required to electronically submit a report through CEDRI in EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with the reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in [paragraphs \(i\)\(1\)](#) through [\(7\)](#) of this section.

(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(5) You must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.



(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(j) ***Extension for force majeure events.*** If you are required to electronically submit a report through CEDRI in EPA's CDX, you may assert a claim of force majeure for failure to timely comply with the reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in [paragraphs \(j\)\(1\)](#) through [\(5\)](#) of this section.

(1) You may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning five business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.*, hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.*, large scale power outage).

(2) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(3) You must provide to the Administrator:

(i) A written description of the force majeure event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(4) The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

(k) ***SSM reports.*** For affected sources that commenced construction or reconstruction before September 19, 2019, you must submit SSM reports as specified in [§ 63.10\(d\)\(5\)](#), except that the provisions in [subpart A of this part](#) pertaining to startups, shutdowns, and malfunctions do

not apply unless a control device is used to comply with this subpart. On and after, July 9, 2021, and for affected sources that commence construction or reconstruction after September 19, 2019, this section is no longer relevant.

(1) If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not consistent with the procedures specified in the affected source's SSMP required by [§ 63.6\(e\)\(3\)](#), the owner or operator must state such information in the report. The startup, shutdown, or malfunction report must consist of a letter containing the name, title, and signature of the responsible official who is certifying its accuracy and must be submitted to the Administrator.

(2) Separate startup, shutdown, and malfunction reports are not required if the information is included in the report specified in [paragraph \(c\)\(2\)\(vi\)](#) of this section.

[[67 FR 72341](#), Dec. 4, 2002, as amended at [85 FR 41313](#), July 9, 2020; [85 FR 73905](#), Nov. 19, 2020]

## **§ 63.3410 What records must I keep?**

(a) Each owner or operator of an affected source subject to this subpart must maintain the records specified in [paragraphs \(a\)\(1\)](#) and [\(2\)](#) of this section on a monthly basis in accordance with the requirements of [§ 63.10\(b\)\(1\)](#):

(1) Records specified in [§ 63.10\(b\)\(2\)](#) of all measurements needed to demonstrate compliance with this standard as indicated in Table 2 to subpart JJJJ of part 63, including:

(i) Continuous emission monitor data in accordance with the requirements of [§ 63.3350\(d\)](#);

(ii) Control device and capture system operating parameter data in accordance with the requirements of [§ 63.3350\(c\)](#), [\(e\)](#), and [\(f\)](#);

(iii) Organic HAP content data for the purpose of demonstrating compliance in accordance with the requirements of [§ 63.3360\(c\)](#);

(iv) Volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of [§ 63.3360\(d\)](#);

(v) Overall control efficiency determination using capture efficiency and control device destruction or removal efficiency test results in accordance with the requirements of [§ 63.3360\(e\)](#) and [\(f\)](#);

(vi) Material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with the requirements of [§ 63.3370\(b\)](#), [\(c\)](#), and [\(d\)](#); and



(vii) Emission factor development calculations and HAP content for coating materials used to develop the emission factor as needed for [§ 63.3360\(g\)](#).

(2) Records specified in [§ 63.10\(c\)](#) for each CMS operated by the owner or operator in accordance with the requirements of [§ 63.3350\(b\)](#), as indicated in Table 2 to subpart JJJJ of part 63.

(b) Each owner or operator of an affected source subject to this subpart must maintain records of all liquid-liquid material balances performed in accordance with the requirements of [§ 63.3370](#). The records must be maintained in accordance with the applicable requirements of [§ 63.10\(b\)](#).

(c) For each deviation from an operating limit occurring at an affected source, you must record the following information.

(1) The total operating time the web coating line(s) controlled by the corresponding add-on control device and/or emission capture system during the reporting period.

(2) Date, time, duration, and cause of the deviations.

(3) If the facility determines by its monthly compliance demonstration, in accordance with [§ 63.3370](#), as applicable, that the source failed to meet an applicable emission limit of this subpart, you must record the following for the corresponding affected equipment:

(i) Record an estimate of the quantity of HAP (or VOC if used a surrogate in accordance with [§ 63.3360\(d\)](#)) emitted in excess of the emission limit for the month, and a description of the method used to estimate the emissions.

(ii) Record actions taken to minimize emissions in accordance with [§ 63.3340\(a\)](#), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(d) Records of results from the annual catalyst activity test, if applicable.

(e) Any records required to be maintained by this part that are submitted electronically via EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

[\[85 FR 41316, July 9, 2020\]](#)

Delegation of Authority

## **§ 63.3420 What authorities may be delegated to the States?**

(a) In delegating implementation and enforcement authority to a state, local, or tribal agency under [40 CFR part 63, subpart E](#), [the](#) authorities contained in [paragraph \(b\)](#) of this section must be retained by the EPA Administrator and not transferred to a state, local, or tribal agency.

(b) Authority which will not be delegated to state, local, or tribal agencies are listed in [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section:

(1) Approval of alternate test method for organic HAP content determination under [§ 63.3360\(c\)](#).

(2) Approval of alternate test method for volatile matter determination under [§ 63.3360\(d\)](#).

[[85 FR 41316](#), July 9, 2020]

## Table 1 to Subpart JJJJ of Part 63 - Operating Limits if Using Add-On Control Devices and Capture System

If you are required to comply with operating limits by [§ 63.3321](#), you must comply with the applicable operating limits in the following table:

| For the following device: | You must meet the following operating limit:   | And you must demonstrate continuous compliance with operating limits by:  |
|---------------------------|--|---|
| 1. Thermal oxidizer       | a. The average combustion temperature in any 3-hour period must not fall more than 50 °F below the combustion temperature limit established according to <a href="#">§ 63.3360(e)(3)(i)</a>  | i. Collecting the combustion temperature data according to <a href="#">§ 63.3350(e)(10)</a> ;<br>ii. Reducing the data to 3-hour block averages; and<br>iii. Maintain the 3-hour average combustion temperature at or above the temperature limit.  |
| 2. Catalytic oxidizer     | a. The average temperature at the inlet to the catalyst bed in any 3-hour period must not fall more than 50 degrees Fahrenheit below the combustion temperature limit established according to <a href="#">§ 63.3360(e)(3)(ii)</a><br><br>b. The temperature rise across the catalyst bed must not fall below 80 percent of the limit established according to <a href="#">§ 63.3360(e)(3)(ii)</a> , provided that the minimum temperature is always 50 degrees Fahrenheit | i. Collecting the catalyst bed inlet temperature data according to <a href="#">§ 63.3350(e)(10)</a> ;<br>ii. Reducing the data to 3-hour block averages; and<br>iii. Maintain the 3-hour average catalyst bed inlet temperature at or above the temperature limit.<br><br>i. Collecting the catalyst bed inlet and outlet temperature data according to <a href="#">§ 63.3350(e)(10)</a> ;<br>ii. Reducing the data to 3-hour block averages; and |

| For the following device:  | You must meet the following operating limit:   | And you must demonstrate continuous compliance with operating limits by:   |
|----------------------------|--|--|
|                            | above the catalyst's ignition temperature  | iii. Maintain the 3-hour average temperature rise across the catalyst bed at or above the limit, and maintain the minimum temperature at least 50 degrees Fahrenheit above the catalyst's ignition temperature |
| 3. Emission capture system | Submit monitoring plan to the Administrator that identifies operating parameters to be monitored according to <a href="#">§ 63.3350(f)</a> | Conduct monitoring according to the plan ( <a href="#">§ 63.3350(f)(3)</a> ).  |

[[85 FR 41316](#), July 9, 2020]

## Table 2 to Subpart JJJJ of Part 63 - Applicability of [40 CFR Part 63](#) General Provisions to Subpart JJJJ

You must comply with the applicable General Provisions requirements according to the following table:

| General provisions reference | Applicable to subpart JJJJ | Explanation   |
|------------------------------|----------------------------|---|
| § 63.1(a)(1)-(4)             | Yes                        |   |
| § 63.1(a)(5)                 | No                         | Reserved.   |
| § 63.1(a)(6)-(8)             | Yes                        |   |
| § 63.1(a)(9)                 | No                         | Reserved.   |
| § 63.1(a)(10)-(14)           | Yes                        |   |
| § 63.1(b)(1)                 | No                         | Subpart JJJJ specifies applicability.                               |
| § 63.1(b)(2)-(3)             | Yes                        |   |
| § 63.1(c)(1)                 | Yes                        |   |
| § 63.1(c)(2)                 | No                         | Area sources are not subject to emission standards of subpart JJJJ. |
| § 63.1(c)(3)                 | No                         | Reserved.   |
| § 63.1(c)(4)                 | Yes                        |   |
| § 63.1(c)(5)                 | Yes                        |   |
| § 63.1(c)(6)                 | Yes                        |   |
| § 63.1(d)                    | No                         | Reserved.   |
| § 63.1(e)                    | Yes                        |   |
| § 63.2                       | Yes                        | Additional definitions in subpart JJJJ.                             |

| General provisions reference | Applicable to subpart JJJJ | Explanation   |
|------------------------------|----------------------------|---|
| § 63.3(a)-(c)                | Yes                        |   |
| § 63.4(a)(1)-(3)             | Yes                        |   |
| § 63.4(a)(4)                 | No                         | Reserved.   |
| § 63.4(a)(5)                 | Yes                        |   |
| § 63.4(b)-(c)                | Yes                        |   |
| § 63.5(a)(1)-(2)             | Yes                        |   |
| § 63.5(b)(1)                 | Yes                        |   |
| § 63.5(b)(2)                 | No                         | Reserved.   |
| § 63.5(b)(3)-(6)             | Yes                        |   |
| § 63.5(c)                    | No                         | Reserved.   |
| § 63.5(d)                    | Yes                        |   |
| § 63.5(e)                    | Yes                        |   |
| § 63.5(f)                    | Yes                        |   |
| § 63.6(a)                    | Yes                        | Applies only when capture and control system is used to comply with the standard.   |
| § 63.6(b)(1)-(5)             | No                         | § 63.3330 specifies compliance dates.   |
| § 63.6(b)(6)                 | No                         | Reserved.   |
| § 63.6(b)(7)                 | Yes                        |   |
| § 63.6(c)(1)-(2)             | Yes                        |   |
| § 63.6(c)(3)-(4)             | No                         | Reserved.   |
| § 63.6(c)(5)                 | Yes                        |   |
| § 63.6(d)                    | No                         | Reserved.   |
| § 63.6(e)(1)(i)              | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019, see <a href="#">§ 63.3340(a)</a> for general duty requirement. Yes, for all other affected sources before July 9, 2021, and No thereafter, see <a href="#">§ 63.3340(a)</a> for general duty requirement. |
| § 63.6(e)(1)(ii)             | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter.   |
| § 63.6(e)(1)(iii)            | Yes                        |   |
| § 63.6(e)(2)                 | No                         | Reserved.   |
| § 63.6(e)(3)                 | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter.   |

| General provisions reference                     | Applicable to subpart JJJJ | Explanation   |
|--|----------------------------|---|
| § 63.6(f)(1)                                     | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter.   |
| § 63.6(f)(2)-(3)                                 | Yes                        |   |
| § 63.6(g)  | Yes                        |   |
| § 63.6(h)  | No                         | Subpart JJJJ does not require continuous opacity monitoring systems (COMS).   |
| § 63.6(i)(1)-(14)                                | Yes                        |   |
| § 63.6(i)(15)                                    | No                         | Reserved.   |
| § 63.6(i)(16)                                    | Yes                        |   |
| § 63.6(j)  | Yes                        |   |
| § 63.7(a)-(d)                                    | Yes                        |   |
| § 63.7(e)(1)                                     | No                         | See <a href="#">§ 63.3360(e)(2)</a> .   |
| § 63.7(e)(2)-(3)                                 | Yes                        |   |
| § 63.7(f)-(h)                                    | Yes                        |   |
| § 63.8(a)(1)-(2)                                 | Yes                        |   |
| § 63.8(a)(3)                                     | No                         | Reserved.   |
| § 63.8(a)(4)                                     | No                         | Subpart JJJJ does not have monitoring requirements for flares.  |
| § 63.8(b)  | Yes                        |   |
| § 63.8(c)(1) and <a href="#">§ 63.8(c)(1)(i)</a> | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019, see <a href="#">§ 63.3340(a)</a> for general duty requirement. Yes, for all other affected sources before July 9, 2021, and No thereafter, see <a href="#">§ 63.3340(a)</a> for general duty requirement. |
| § 63.8(c)(1)(ii)                                 | Yes                        | § 63.8(c)(1)(ii) only applies if you use capture and control systems.   |
| § 63.8(c)(1)(iii)                                | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter.   |
| § 63.8(c)(2)-(3)                                 | Yes                        | See <a href="#">§ 63.3350(e)(10)(iv)</a> for temperature sensor validation procedures   |
| § 63.8(c)(4)                                     | No                         | § 63.3350 specifies the requirements for the operation of CMS for capture systems and add-on control devices at sources using these to comply.  |
| § 63.8(c)(5)                                     | No                         | Subpart JJJJ does not require COMS.   |
| § 63.8(c)(6)-(8)                                 | Yes                        | Provisions for COMS are not applicable.   |

| General provisions reference | Applicable to subpart JJJJ | Explanation   |
|------------------------------|----------------------------|---|
| § 63.8(d)(1)-(2)             | Yes                        | Refer to <a href="#">§ 63.3350(e)(5)</a> for CPMS quality control procedures to be included in the quality control program.   |
| § 63.8(d)(3)                 | No                         | § 63.3350(e)(5) specifies the program of corrective action.   |
| § 63.8(e)-(f)                | Yes                        | § 63.8(e)(2) does not apply to CPMS. <a href="#">§ 63.8(f)(6)</a> only applies if you use CEMS.   |
| § 63.8(g)                    | Yes                        | Only applies if you use CEMS.   |
| § 63.9(a)                    | Yes                        |   |
| § 63.9(b)(1)                 | Yes                        |   |
| § 63.9(b)(2)                 | Yes                        | Except <a href="#">§ 63.3400(b)(1)</a> requires submittal of initial notification for existing affected sources no later than 1 year before compliance date.                              |
| § 63.9(b)(3)-(5)             | Yes                        |   |
| § 63.9(c)-(e)                | Yes                        |   |
| § 63.9(f)                    | No                         | Subpart JJJJ does not require opacity and visible emissions observations.   |
| § 63.9(g)                    | Yes                        | Provisions for COMS are not applicable.   |
| § 63.9(h)(1)-(3)             | Yes                        |   |
| § 63.9(h)(4)                 | No                         | Reserved.   |
| § 63.9(h)(5)-(6)             | Yes                        |   |
| § 63.9(i)                    | Yes                        |   |
| § 63.9(j)                    | Yes                        |   |
| § 63.9(k)                    | Yes                        | Only as specified in <a href="#">§ 63.9(j)</a> .  |
| § 63.10(a)                   | Yes                        |   |
| § 63.10(b)(1)                | Yes                        |   |
| § 63.10(b)(2)(i)             | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter. |
| § 63.10(b)(2)(ii)            | No                         | See <a href="#">§ 63.3410</a> for recordkeeping of relevant information.  |
| § 63.10(b)(2)(iii)           | Yes                        | § 63.10(b)(2)(iii) only applies if you use a capture and control system.  |
| § 63.10(b)(2)(iv)-(v)        | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter. |
| § 63.10(b)(2)(vi)-(xiv)      | Yes                        |   |
| § 63.10(b)(3)                | Yes                        |   |

| General provisions reference | Applicable to subpart JJJJ | Explanation  |
|------------------------------|----------------------------|--|
| § 63.10(c)(1)                | Yes                        |  |
| § 63.10(c)(2)-(4)            | No                         | Reserved.  |
| § 63.10(c)(5)-(8)            | Yes                        |  |
| § 63.10(c)(9)                | No                         | Reserved.  |
| § 63.10(c)(10)-(14)          | Yes                        |  |
| § 63.10(c)(15)               | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter.  |
| § 63.10(d)(1)-(2)            | Yes                        |  |
| § 63.10(d)(3)                | No                         | Subpart JJJJ does not require opacity and visible emissions observations.  |
| § 63.10(d)(4)                | Yes                        |  |
| § 63.10(d)(5)(i)             | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter. See <a href="#">§ 63.3400(c)</a> for malfunction reporting requirements. |
| § 63.10(d)(5)(ii)            | Depends, see explanation   | No, for new or reconstructed sources which commenced construction or reconstruction after September 19, 2019. Yes, for all other affected sources before July 9, 2021, and No thereafter. See <a href="#">§ 63.3400(c)</a> for malfunction reporting requirements. |
| § 63.10(e)(1)-(2)            | Yes                        | Provisions for COMS are not applicable.  |
| § 63.10(e)(3)-(4)            | No                         | Subpart JJJJ does not require opacity and visible emissions observations.  |
| § 63.10(f)                   | Yes                        |  |
| § 63.11                      | No                         | Subpart JJJJ does not specify use of flares for compliance.  |
| § 63.12                      | Yes                        |  |
| § 63.13                      | Yes                        |  |
| § 63.14                      | Yes                        | Subpart JJJJ includes provisions for alternative ASME and ASTM test methods that are incorporated by reference.  |
| § 63.15                      | Yes                        |  |
| § 63.16                      | Yes                        |  |

[[85 FR 41317](#), July 9, 2020, as amended at [85 FR 73905](#), Nov. 19, 2020]

Appendix D: 40 C.F.R. Part 63, Subpart ZZZZ—*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*



## What This Subpart Covers

### **§ 63.6580 What is the purpose of subpart ZZZZ?**

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[[73 FR 3603](#), Jan. 18, 2008]

### **§ 63.6585 Am I subject to this subpart?**

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

- (a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at [40 CFR 1068.30](#), and is not used to propel a motor vehicle or a vehicle used solely for competition.
- (b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.
- (c) An area source of HAP emissions is a source that is not a major source.
- (d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under [40 CFR part 70](#) or [71](#), provided you are not required to obtain a permit under [40 CFR 70.3\(a\)](#) or [40 CFR 71.3\(a\)](#) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
- (e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in [40 CFR part 1068, subpart C](#).
- (f) The emergency stationary RICE listed in [paragraphs \(f\)\(1\) through \(3\)](#) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in [§ 63.6675](#), which includes operating according to the provisions specified in [§ 63.6640\(f\)](#).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#) and that do not operate for the purpose specified in [§ 63.6640\(f\)\(4\)\(ii\)](#).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#) and that do not operate for the purpose specified in [§ 63.6640\(f\)\(4\)\(ii\)](#).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#) and that do not operate for the purpose specified in [§ 63.6640\(f\)\(4\)\(ii\)](#).

[[69 FR 33506](#), June 15, 2004, as amended at [73 FR 3603](#), Jan. 18, 2008; [78 FR 6700](#), Jan. 30, 2013]

## **§ 63.6590 What parts of my plant does this subpart cover?**

This subpart applies to each affected source.

(a) ***Affected source.*** An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

### **(1) *Existing stationary RICE.***

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

### **(2) *New stationary RICE.***

(i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

**(3) *Reconstructed stationary RICE.***

(i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in [§ 63.2](#) and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in [§ 63.2](#) and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in [§ 63.2](#) and reconstruction is commenced on or after June 12, 2006.

**(b) *Stationary RICE subject to limited requirements.***

(1) An affected source which meets either of the criteria in [paragraphs \(b\)\(1\)\(i\) through \(ii\)](#) of this section does not have to meet the requirements of this subpart and of [subpart A of this part](#) except for the initial notification requirements of [§ 63.6645\(f\)](#).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of [§ 63.6645\(f\)](#) and the requirements of [§§ 63.6625\(c\)](#), [63.6650\(g\)](#), and [63.6655\(c\)](#). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of [subpart A of this part](#), including initial notification requirements:

- (i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
- (ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
- (iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#).
- (iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
- (v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) ***Stationary RICE subject to Regulations under [40 CFR Part 60](#).*** An affected source that meets any of the criteria in [paragraphs \(c\)\(1\) through \(7\)](#) of this section must meet the requirements of this part by meeting the requirements of [40 CFR part 60 subpart III](#), for compression ignition engines or [40 CFR part 60 subpart JJJJ](#), for spark ignition engines. No further requirements apply for such engines under this part.

- (1) A new or reconstructed stationary RICE located at an area source;
- (2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;
- (4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;
- (6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[[69 FR 33506](#), June 15, 2004, as amended at [73 FR 3604](#), Jan. 18, 2008; [75 FR 9674](#), Mar. 3, 2010; [75 FR 37733](#), June 30, 2010; [75 FR 51588](#), Aug. 20, 2010; [78 FR 6700](#), Jan. 30, 2013]

## **§ 63.6595 When do I have to comply with this subpart?**

### **(a) *Affected sources.***

(1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in [§ 63.6645](#) and in [40 CFR part 63, subpart A](#).

[[69 FR 33506](#), June 15, 2004, as amended at [73 FR 3604](#), Jan. 18, 2008; [75 FR 9675](#), Mar. 3, 2010; [75 FR 51589](#), Aug. 20, 2010; [78 FR 6701](#), Jan. 30, 2013]

#### Emission and Operating Limitations

### **§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in [§ 63.6620](#) and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[[73 FR 3605](#), Jan. 18, 2008, as amended at [75 FR 9675](#), Mar. 3, 2010]

### **§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in [§ 63.6620](#) and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[[73 FR 3605](#), Jan. 18, 2008, as amended at [75 FR 9675](#), Mar. 3, 2010; [75 FR 51589](#), Aug. 20, 2010]

### **§ 63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE**



## **with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?**

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in [§ 63.6620](#) and Table 4 to this subpart.

[[78 FR 6701](#), Jan. 30, 2013]

## **§ 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in [§ 63.6620](#) and Table 4 to this subpart.

- (a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.
- (b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either [paragraph \(b\)\(1\)](#) or [\(2\)](#) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either [paragraph \(b\)\(1\)](#) or [\(2\)](#) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.
  - (1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).
  - (2) The stationary RICE is located at an area source that meets [paragraphs \(b\)\(2\)\(i\), \(ii\), and \(iii\)](#) of this section.
    - (i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.



(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in [40 CFR 55.2](#), you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in [§ 63.6625\(i\)](#) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of [40 CFR 89.112](#) and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in [§ 63.6625\(g\)](#). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in [§ 63.6625\(g\)](#) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of [40 CFR 89.112](#), you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in [40 CFR part 60 subpart IIII](#) instead of the emission

limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in [§ 63.6675](#) on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in [§ 63.6675 of this subpart](#) as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in [§ 63.6675 of this subpart](#), the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[[75 FR 9675](#), Mar. 3, 2010, as amended at [75 FR 51589](#), Aug. 20, 2010; [76 FR 12866](#), Mar. 9, 2011; [78 FR 6701](#), Jan. 30, 2013]

## **§ 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?**

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in [40 CFR 1090.305](#) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#) or that operates for the purpose specified in [§ 63.6640\(f\)\(4\)\(ii\)](#), you must use diesel fuel that meets the requirements in [40 CFR 1090.305](#) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#), you must use diesel fuel that meets the requirements in [40 CFR 1090.305](#) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either [§ 63.6603\(b\)\(1\)](#) or [§ 63.6603\(b\)\(2\)](#), or are on offshore vessels that meet [§ 63.6603\(c\)](#) are exempt from the requirements of this section.

[[78 FR 6702](#), Jan. 30, 2013, as amended at [85 FR 78463](#), Dec. 4, 2020]

#### General Compliance Requirements

### **§ 63.6605 What are my general requirements for complying with this subpart?**

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must 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. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. 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.

[[75 FR 9675](#), Mar. 3, 2010, as amended at [78 FR 6702](#), Jan. 30, 2013]

#### Testing and Initial Compliance Requirements

### **§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in [§ 63.6595](#) and according to the provisions in [§ 63.7\(a\)\(2\)](#).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to [§ 63.7\(a\)\(2\)\(ix\)](#).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to [§ 63.7\(a\)\(2\)\(ix\)](#).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in [paragraphs \(d\)\(1\)](#) through [\(5\)](#) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[[69 FR 33506](#), June 15, 2004, as amended at [73 FR 3605](#), Jan. 18, 2008]

**§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?**

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in [§ 63.6595](#) and according to the provisions specified in Table 4 to this subpart, as appropriate.

[[73 FR 3605](#), Jan. 18, 2008, as amended at [75 FR 51589](#), Aug. 20, 2010]

**§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?**

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in [§ 63.6595](#) and according to the provisions in [§ 63.7\(a\)\(2\)](#).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in [paragraphs \(b\)\(1\) through \(4\)](#) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[[75 FR 9676](#), Mar. 3, 2010, as amended at [75 FR 51589](#), Aug. 20, 2010]

## **§ 63.6615 When must I conduct subsequent performance tests?**

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

## **§ 63.6620 What performance tests and other procedures must I use?**

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in [paragraphs \(b\)\(1\) through \(4\)](#) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in [§ 63.7\(e\)\(3\)](#). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)

(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

$C_i$  = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

$C_o$  = concentration of CO, THC, or formaldehyde at the control device outlet, and

$R$  = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide ( $\text{CO}_2$ ). If pollutant concentrations are to be corrected to 15 percent oxygen and  $\text{CO}_2$  concentration is measured in lieu of oxygen concentration measurement, a  $\text{CO}_2$  correction factor is needed. Calculate the  $\text{CO}_2$  correction factor as described in [paragraphs \(e\)\(2\)\(i\) through \(iii\)](#) of this section.

(i) Calculate the fuel-specific  $F_o$  value for the fuel burned during the test using values obtained from Method 19, [Section 5.2](#), and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

$F_o$  = Fuel factor based on the ratio of oxygen volume to the ultimate  $\text{CO}_2$  volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

$F_d$  = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3/\text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ ).

$F_c$  = Ratio of the volume of  $\text{CO}_2$  produced to the gross calorific value of the fuel from Method 19,  $\text{dsm}^3/\text{J}$  ( $\text{dscf}/10^6 \text{ Btu}$ )

(ii) Calculate the  $\text{CO}_2$  correction factor for correcting measurement data to 15 percent  $\text{O}_2$ , as follows:

$$X_{CO_2} = \frac{5.9}{F_O} \quad (Eq. 3)$$

Where:

$X_{CO_2}$  = CO<sub>2</sub> correction factor, percent.

5.9 = 20.9 percent O<sub>2</sub> - 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O<sub>2</sub> using CO<sub>2</sub> as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (Eq. 4)$$

Where:

$C_{adj}$  = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O<sub>2</sub>.

$C_d$  = Measured concentration of CO, THC, or formaldehyde, uncorrected.

$X_{CO_2}$  = CO<sub>2</sub> correction factor, percent.

%CO<sub>2</sub> = Measured CO<sub>2</sub> concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in [paragraphs \(g\)\(1\) through \(5\)](#) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;



(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in [paragraphs \(h\)\(1\) through \(7\)](#) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.*, operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.*, wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or

calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[[69 FR 33506](#), June 15, 2004, as amended at [75 FR 9676](#), Mar. 3, 2010; [78 FR 6702](#), Jan. 30, 2013]

## **§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?**

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O<sub>2</sub> or CO<sub>2</sub> according to the requirements in [paragraphs \(a\)\(1\) through \(4\)](#) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of [40 CFR part 60, appendix B](#).

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in [§ 63.8](#) and according to the applicable performance specifications of [40 CFR part 60, appendix B](#) as well as daily and periodic data quality checks in accordance with [40 CFR part 60, appendix E](#), procedure 1.

(3) As specified in [§ 63.8\(c\)\(4\)\(ii\)](#), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in [§ 63.8\(g\)\(2\)](#) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in [paragraphs \(b\)\(1\) through \(6\)](#) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in [paragraph \(b\)](#) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in [paragraphs \(b\)\(1\)\(i\) through \(v\)](#) of this section and in [§ 63.8\(d\)](#). As specified in [§ 63.8\(f\)\(4\)](#), you may request approval of monitoring system quality assurance and quality control

procedures alternative to those specified in [paragraphs \(b\)\(1\) through \(5\)](#) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.*, thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in [§ 63.8\(c\)\(1\)\(ii\)](#) and [\(c\)\(3\)](#); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in [§ 63.10\(c\)](#), [\(e\)\(1\)](#), and [\(e\)\(2\)\(i\)](#).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also [§ 63.6635](#)).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must

comply with either paragraph (g)(1) or [paragraph \(2\)](#) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either [§ 63.6603\(b\)\(1\)](#) or [§ 63.6603\(b\)\(2\)](#) do not have to meet the requirements of this [paragraph \(g\)](#). Existing CI engines located on offshore vessels that meet [§ 63.6603\(c\)](#) do not have to meet the requirements of this [paragraph \(g\)](#).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three

parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[[69 FR 33506](#), June 15, 2004, as amended at [73 FR 3606](#), Jan. 18, 2008; [75 FR 9676](#), Mar. 3, 2010; [75 FR 51589](#), Aug. 20, 2010; [76 FR 12866](#), Mar. 9, 2011; [78 FR 6703](#), Jan. 30, 2013]

## **§ 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?**

- (a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.
- (b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.
- (c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in [§ 63.6645](#).
- (d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.
- (e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:
  - (1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of [40 CFR part 60, appendix A](#).

(5) You must measure O<sub>2</sub> using one of the O<sub>2</sub> measurement methods specified in Table 4 of this subpart. Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O<sub>2</sub> emissions simultaneously at the inlet and outlet of the control device.

[[69 FR 33506](#), June 15, 2004, as amended at [78 FR 6704](#), Jan. 30, 2013]

#### Continuous Compliance Requirements

### **§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?**

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[[69 FR 33506](#), June 15, 2004, as amended at [76 FR 12867](#), Mar. 9, 2011]

## **§ 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?**

- (a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.
- (b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in [§ 63.6650](#). If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.
- (c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:
- (1) The compliance demonstration must consist of at least one test run.
  - (2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.
  - (3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.
  - (4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of [40 CFR part 60, appendix A](#).
  - (5) You must measure O<sub>2</sub> using one of the O<sub>2</sub> measurement methods specified in Table 4 of this subpart. Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for CO or THC concentration.
  - (6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O<sub>2</sub> emissions simultaneously at the inlet and outlet of the control device.



(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in [40 CFR 94.11\(a\)](#).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in [paragraphs \(f\)\(1\) through \(4\)](#) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in [paragraphs \(f\)\(1\) through \(4\)](#) of this section, is prohibited. If you do not operate the engine according to the requirements in [paragraphs \(f\)\(1\) through \(4\)](#) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in [paragraphs \(f\)\(2\)\(i\) through \(iii\)](#) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by [paragraphs \(f\)\(3\) and \(4\)](#) of this section counts as part of the 100 hours per calendar year allowed by this [paragraph \(f\)\(2\)](#).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see [§ 63.14](#)), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in [paragraph \(f\)\(2\)](#) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in [paragraph \(f\)\(2\)](#) of this section. Except as provided in [paragraphs \(f\)\(4\)\(i\) and \(ii\)](#) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local

distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[[69 FR 33506](#), June 15, 2004, as amended at [71 FR 20467](#), Apr. 20, 2006; [73 FR 3606](#), Jan. 18, 2008; [75 FR 9676](#), Mar. 3, 2010; [75 FR 51591](#), Aug. 20, 2010; [78 FR 6704](#), Jan. 30, 2013]

Notifications, Reports, and Records

## **§ 63.6645 What notifications must I submit and when?**

(a) You must submit all of the notifications in [§§ 63.7\(b\)](#) and [\(c\)](#), [63.8\(e\)](#), [\(f\)\(4\)](#) and [\(f\)\(6\)](#), [63.9\(b\)](#) through [\(e\)](#), and [\(g\)](#) and [\(h\)](#) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in [§ 63.9\(b\)\(2\)](#), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004, or no later than 120 days after the source becomes subject to this subpart, whichever is later.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in [§ 63.9\(b\)\(2\)](#), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008, or no later than 120 days after the source becomes subject to this subpart, whichever is later.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with [§ 63.6590\(b\)](#), your notification should include the information in [§ 63.9\(b\)\(2\)\(i\)](#) through [\(v\)](#), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in [§ 63.7\(b\)\(1\)](#).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to [§ 63.9\(h\)\(2\)\(ii\)](#).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to [§ 63.10\(d\)\(2\)](#).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of [40 CFR 89.112](#) and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in [§ 63.6603\(d\)](#), you must submit a notification by March 3, 2013, stating that you intend to use the provision in [§ 63.6603\(d\)](#) and identifying the state or local regulation that the engine is subject to.

[[73 FR 3606](#), Jan. 18, 2008, as amended at [75 FR 9677](#), Mar. 3, 2010; [75 FR 51591](#), Aug. 20, 2010; [78 FR 6705](#), Jan. 30, 2013; [85 FR 73912](#), Nov. 19, 2020]

## **§ 63.6650 What reports must I submit and when?**

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under [§ 63.10\(a\)](#), you must submit each report by the date in Table 7 of this subpart and according to the requirements in [paragraphs \(b\)\(1\) through \(b\)\(9\)](#) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in [§ 63.6595](#) and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in [§ 63.6595](#).

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in [§ 63.6595](#).

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to [40 CFR part 70](#) or [71](#), and if the permitting authority has established dates for submitting semiannual reports pursuant to [40 CFR 70.6\(a\)\(3\)\(iii\)\(A\)](#) or [40 CFR 71.6 \(a\)\(3\)\(iii\)\(A\)](#), you may submit the first and subsequent Compliance reports according to the dates the permitting authority

has established instead of according to the dates in [paragraphs \(b\)\(1\)](#) through [\(b\)\(4\)](#) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in [§ 63.6595](#) and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in [§ 63.6595](#).

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in [paragraphs \(c\)\(1\)](#) through [\(6\)](#) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period 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 [§ 63.6605\(b\)](#), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in [§ 63.8\(c\)\(7\)](#), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in [paragraphs \(c\)\(1\)](#) through [\(4\)](#) of this section and the information in [paragraphs \(d\)\(1\)](#) and [\(2\)](#) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in [paragraphs \(c\)\(1\) through \(4\)](#) and [\(e\)\(1\) through \(12\)](#) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in [§ 63.8\(c\)\(8\)](#).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.



(f) Each affected source that has obtained a title V operating permit pursuant to [40 CFR part 70](#) or [71](#) must report all deviations as defined in this subpart in the semiannual monitoring report required by [40 CFR 70.6\(a\)\(3\)\(iii\)\(A\)](#) or [40 CFR 71.6\(a\)\(3\)\(iii\)\(A\)](#). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by [40 CFR 70.6\(a\)\(3\)\(iii\)\(A\)](#) or [40 CFR 71.6\(a\)\(3\)\(iii\)\(A\)](#), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in [paragraphs \(b\)\(1\)](#) through [\(b\)\(5\)](#) of this section. You must report the data specified in [\(g\)\(1\)](#) through [\(g\)\(3\)](#) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#) or that operates for the purpose specified in [§ 63.6640\(f\)\(4\)\(ii\)](#), you must submit an annual report according to the requirements in [paragraphs \(h\)\(1\)](#) through [\(3\)](#) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.



(v) Hours operated for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#), including the date, start time, and end time for engine operation for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) and [\(iii\)](#).

(vii) Hours spent for operation for the purpose specified in [§ 63.6640\(f\)\(4\)\(ii\)](#), including the date, start time, and end time for engine operation for the purposes specified in [§ 63.6640\(f\)\(4\)\(ii\)](#). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in [§ 63.6604](#) that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in [§ 63.6604](#) that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in [§ 63.13](#).

[[69 FR 33506](#), June 15, 2004, as amended at [75 FR 9677](#), Mar. 3, 2010; [78 FR 6705](#), Jan. 30, 2013]

## **§ 63.6655 What records must I keep?**

(a) If you must comply with the emission and operating limitations, you must keep the records described in [paragraphs \(a\)\(1\)](#) through [\(a\)\(5\)](#), [\(b\)\(1\)](#) through [\(b\)\(3\)](#) and [\(c\)](#) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in [§ 63.10\(b\)\(2\)\(xiv\)](#).

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

(3) Records of performance tests and performance evaluations as required in [§ 63.10\(b\)\(2\)\(viii\)](#).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with [§ 63.6605\(b\)](#), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in [paragraphs \(b\)\(1\) through \(3\)](#) of this section.

(1) Records described in [§ 63.10\(b\)\(2\)\(vi\)](#) through [\(xi\)](#).

(2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in [§ 63.8\(d\)\(3\)](#).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in [§ 63.8\(f\)\(6\)\(i\)](#), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in [paragraphs \(f\)\(1\) through \(2\)](#) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how

many hours are spent for non-emergency operation. If the engine is used for the purposes specified in [§ 63.6640\(f\)\(2\)\(ii\)](#) or [\(iii\)](#) or [§ 63.6640\(f\)\(4\)\(ii\)](#), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[[69 FR 33506](#), June 15, 2004, as amended at [75 FR 9678](#), Mar. 3, 2010; [75 FR 51592](#), Aug. 20, 2010; [78 FR 6706](#), Jan. 30, 2013]

## **§ 63.6660 In what form and how long must I keep my records?**

(a) Your records must be in a form suitable and readily available for expeditious review according to [§ 63.10\(b\)\(1\)](#).

(b) As specified in [§ 63.10\(b\)\(1\)](#), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to [§ 63.10\(b\)\(1\)](#).

[[69 FR 33506](#), June 15, 2004, as amended at [75 FR 9678](#), Mar. 3, 2010]

Other Requirements and Information

## **§ 63.6665 What parts of the General Provisions apply to me?**

Table 8 to this subpart shows which parts of the General Provisions in [§§ 63.1](#) through [63.15](#) apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating

of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[[75 FR 9678](#), Mar. 3, 2010]

## **§ 63.6670 Who implements and enforces this subpart?**

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under [40 CFR part 63, subpart E](#), the authorities contained in [paragraph \(c\)](#) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in [§ 63.6600](#) under [§ 63.6\(g\)](#).

(2) Approval of major alternatives to test methods under [§ 63.7\(e\)\(2\)\(ii\)](#) and [\(f\)](#) and as defined in [§ 63.90](#).

(3) Approval of major alternatives to monitoring under [§ 63.8\(f\)](#) and as defined in [§ 63.90](#).

(4) Approval of major alternatives to recordkeeping and reporting under [§ 63.10\(f\)](#) and as defined in [§ 63.90](#).

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in [§ 63.6610\(b\)](#).

## **§ 63.6675 What definitions apply to this subpart?**

Terms used in this subpart are defined in the Clean Air Act (CAA); in [40 CFR 63.2](#), the General Provisions of this part; and in this section as follows:

***Alaska Railbelt Grid*** means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric

Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

**Area source** means any stationary source of HAP that is not a major source as defined in part 63.

**Associated equipment** as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

**Backup power for renewable energy** means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see [§ 63.14](#)).

**Black start engine** means an engine whose only purpose is to start up a combustion turbine.

**CAA** means the Clean Air Act ([42 U.S.C. 7401](#) *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

**Commercial emergency stationary RICE** means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

**Compression ignition** means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

**Custody transfer** means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

**Deviation** means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by [§ 63.6\(e\)\(1\)\(i\)](#).

**Diesel engine** means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

**Diesel fuel** means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

**Digester gas** means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO<sub>2</sub>.

**Dual-fuel engine** means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

**Emergency stationary RICE** means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in [§ 63.6640\(f\)](#) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in [§ 63.6640\(f\)](#), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in [§ 63.6640\(f\)](#).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in [§ 63.6640\(f\)\(2\)\(ii\)](#) or [\(iii\)](#) and [§ 63.6640\(f\)\(4\)\(i\)](#) or [\(ii\)](#).

**Engine startup** means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

**Four-stroke engine** means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

***Gaseous fuel*** means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

***Gasoline*** means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

***Glycol dehydration unit*** means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

***Hazardous air pollutants (HAP)*** means any air pollutants listed in or pursuant to section 112(b) of the CAA.

***Institutional emergency stationary RICE*** means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

***ISO standard day conditions*** means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

***Landfill gas*** means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

***Lean burn engine*** means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

***Limited use stationary RICE*** means any stationary RICE that operates less than 100 hours per year.

***Liquefied petroleum gas*** means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

***Liquid fuel*** means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

***Major Source***, as used in this subpart, shall have the same meaning as in [§ 63.2](#), except that:

- (1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether



such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in [§ 63.1271](#) of [subpart HHH of this part](#), shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in [§ 63.1271](#) of [subpart HHH of this part](#), shall not be aggregated.

**Malfunction** means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

**Natural gas** means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

**Non-selective catalytic reduction (NSCR)** means an add-on catalytic nitrogen oxides (NO<sub>x</sub>) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO<sub>x</sub>, CO, and volatile organic compounds (VOC) into CO<sub>2</sub>, nitrogen, and water.

**Oil and gas production facility** as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.



***Oxidation catalyst*** means an add-on catalytic control device that controls CO and VOC by oxidation.

***Peaking unit or engine*** means any standby engine intended for use during periods of high demand that are not emergencies.

***Percent load*** means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

***Potential to emit*** means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to [subpart HH of this part](#), the potential to emit provisions in [§ 63.760\(a\)](#) may be used. For natural gas transmission and storage facilities subject to [subpart HHH of this part](#), the maximum annual facility gas throughput for storage facilities may be determined according to [§ 63.1270\(a\)\(1\)](#) and the maximum annual throughput for transmission facilities may be determined according to [§ 63.1270\(a\)\(2\)](#).

***Production field facility*** means those oil and gas production facilities located prior to the point of custody transfer.

***Production well*** means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

***Propane*** means a colorless gas derived from petroleum and natural gas, with the molecular structure C<sub>3</sub>H<sub>8</sub>.

***Remote stationary RICE*** means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this [paragraph \(2\)](#), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

***Residential emergency stationary RICE*** means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

***Responsible official*** means responsible official as defined in [40 CFR 70.2](#).

***Rich burn engine*** means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO<sub>x</sub> (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

***Site-rated HP*** means the maximum manufacturer's design capacity at engine site conditions.

***Spark ignition*** means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

***Stationary reciprocating internal combustion engine (RICE)*** means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at [40 CFR 1068.30](#), and is not used to propel a motor vehicle or a vehicle used solely for competition.

***Stationary RICE test cell/stand*** means an engine test cell/stand, as defined in [subpart P of this part](#), that tests stationary RICE.

***Stoichiometric*** means the theoretical air-to-fuel ratio required for complete combustion.

***Storage vessel with the potential for flash emissions*** means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

***Subpart*** means [40 CFR part 63, subpart ZZZZ](#).

***Surface site*** means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

***Two-stroke engine*** means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[[69 FR 33506](#), June 15, 2004, as amended at [71 FR 20467](#), Apr. 20, 2006; [73 FR 3607](#), Jan. 18, 2008; [75 FR 9679](#), Mar. 3, 2010; [75 FR 51592](#), Aug. 20, 2010; [76 FR 12867](#), Mar. 9, 2011; [78 FR 6706](#), Jan. 30, 2013]

## **Table 1a to Subpart ZZZZ of Part 63 - Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

As stated in [§§ 63.6600](#) and [63.6640](#), you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

| For each . . .          | You must meet the following emission limitation, except during periods of startup . . .  | During periods of startup you must . . .  |
|-------------------------|--|---|
| 1. 4SRB stationary RICE | <p>a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or</p> <p>b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O<sub>2</sub></p> | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup> |

<sup>1</sup> Sources can petition the Administrator pursuant to the requirements of [40 CFR 63.6\(g\)](#) for alternative work practices.

[[75 FR 9679](#), Mar. 3, 2010, as amended at [75 FR 51592](#), Aug. 20, 2010]

## Table 1b to Subpart ZZZZ of Part 63 - Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in [§§ 63.6600](#), [63.6603](#), [63.6630](#) and [63.6640](#), you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

| For each . . .   | You must meet the following operating limitation, except during periods of startup . . .  |
|--|---|
| 1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and using NSCR; | <p>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and</p> <p>b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.<sup>1</sup></p> |

| For each . . . | You must meet the following operating limitation, except during periods of startup .<br>.. |
|----------------|--|
|----------------|--|

|   |  |
|---|--|
| 2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or<br>existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and not using NSCR. | Comply with any operating limitations approved by the Administrator. |
|---|--|

<sup>1</sup> Sources can petition the Administrator pursuant to the requirements of [40 CFR 63.8\(f\)](#) for a different temperature range.

[\[78 FR 6706](#), Jan. 30, 2013]

## Table 2a to Subpart ZZZZ of Part 63 - Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§ [63.6600](#) and [63.6640](#), you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

| For each .<br>..        | You must meet the following emission limitation, except during periods of startup .<br>..  | During periods of startup you must . . .  |
|-------------------------|--|---|
| 1. 2SLB stationary RICE | a. Reduce CO emissions by 58 percent or more; or<br>b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O <sub>2</sub> . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O <sub>2</sub> until June 15, 2007 | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup> |

| For each .<br>..              | You must meet the following emission<br>limitation, except during periods of startup .<br>..   | During periods of startup you<br>must . . . |
|-------------------------------|--|---|
| 2. 4SLB<br>stationary<br>RICE | a. Reduce CO emissions by 93 percent or<br>more; or<br><br>b. Limit concentration of formaldehyde in the<br>stationary RICE exhaust to 14 ppmvd or less at<br>15 percent O <sub>2</sub>  |   |
| 3. CI<br>stationary<br>RICE   | a. Reduce CO emissions by 70 percent or<br>more; or<br><br>b. Limit concentration of formaldehyde in the<br>stationary RICE exhaust to 580 ppbvd or less<br>at 15 percent O <sub>2</sub> |   |

<sup>1</sup> Sources can petition the Administrator pursuant to the requirements of [40 CFR 63.6\(g\)](#) for alternative work practices.

[[75 FR 9680](#), Mar. 3, 2010]

## **Table 2b to Subpart ZZZZ of Part 63 - Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP**

As stated in [§§ 63.6600](#), [63.6601](#), [63.6603](#), [63.6630](#), and [63.6640](#), you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

| For each . . .   | You must meet the following operating<br>limitation, except during periods of<br>startup . . .  |
|--|---|
| 1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation | a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance |

| For each . . .   | You must meet the following operating limitation, except during periods of startup . . .  |
|--|---|
| <p>catalyst; and</p> <p>New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE <math>\geq</math>250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.</p>  | <p>test; and</p> <p>b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.<sup>1</sup></p>                        |
| <p>2. Existing CI stationary RICE &gt;500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst</p>  | <p>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and</p> |
| <p>3. New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE <math>\geq</math>250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and</p>   | <p>b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.<sup>1</sup></p>   |
| <p>New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE <math>\geq</math>250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and</p> <p>existing CI stationary RICE &gt;500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.</p> | <p>Comply with any operating limitations approved by the Administrator.</p>   |

<sup>1</sup> Sources can petition the Administrator pursuant to the requirements of [40 CFR 63.8\(f\)](#) for a different temperature range.



## Table 2c to Subpart ZZZZ of Part 63 - Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

| For each . . .  | You must meet the following requirement, except during periods of startup . . .   | During periods of startup you must . . .  |
|---|---|---|
| 1. Emergency stationary CI RICE and black start stationary CI RICE <sup>1</sup> | a. Change oil and filter every 500 hours of operation or annually, whichever comes first. <sup>2</sup><br>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;<br>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup> | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>3</sup> |
| 2. Non-Emergency, non-black start stationary CI RICE <100 HP                    | a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first. <sup>2</sup><br>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;<br>c. Inspect all hoses and belts every 500 hours of operation or annually,   |   |



| For each . . .   | You must meet the following requirement, except during periods of startup . . .   | During periods of startup you must . . . |
|--|---|--|
|  | whichever comes first, and replace as necessary. <sup>3</sup>   |  |
| 3. Non-Emergency, non-black start CI stationary RICE<br>100≤HP≤300 HP                          | Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O <sub>2</sub> .  |  |
| 4. Non-Emergency, non-black start CI stationary RICE<br>300<HP≤500                             | a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O <sub>2</sub> ; or<br>b. Reduce CO emissions by 70 percent or more.  |  |
| 5. Non-Emergency, non-black start stationary CI RICE >500 HP                                   | a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O <sub>2</sub> ; or<br>b. Reduce CO emissions by 70 percent or more.  |  |
| 6. Emergency stationary SI RICE and black start stationary SI RICE. <sup>1</sup>               | a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup><br>b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;<br>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup> |  |
| 7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE | a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>2</sup><br>b. Inspect spark plugs every 1,440 hours of   |  |

| For each . . .  | You must meet the following requirement, except during periods of startup . . .  | During periods of startup you must . . . |
|---|--|--|
|   | operation or annually, whichever comes first, and replace as necessary;  |  |
|   | c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup> |  |
| 8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP                               | a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; <sup>2</sup>                                 |  |
|   | b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;                      |  |
|   | c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup> |  |
| 9. Non-emergency, non-black start 2SLB stationary RICE $100 \leq \text{HP} \leq 500$            | Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O <sub>2</sub> .                             |  |
| 10. Non-emergency, non-black start 4SLB stationary RICE $100 \leq \text{HP} \leq 500$           | Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O <sub>2</sub> .                              |  |
| 11. Non-emergency, non-black start 4SRB stationary RICE $100 \leq \text{HP} \leq 500$           | Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O <sub>2</sub> .                  |  |
| 12. Non-emergency, non-black start stationary RICE $100 \leq \text{HP} \leq 500$ which combusts | Limit concentration of CO in the stationary RICE exhaust to 177  |  |

| For each . . .   | You must meet the following requirement, except during periods of startup . . . | During periods of startup you must . . . |
|--|---|--|
| landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis | ppmvd or less at 15 percent O <sub>2</sub> .                                    |  |

<sup>1</sup> If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

<sup>2</sup> Sources have the option to utilize an oil analysis program as described in [§ 63.6625\(i\)](#) or [\(j\)](#) in order to extend the specified oil change requirement in Table 2c of this subpart.

<sup>3</sup> Sources can petition the Administrator pursuant to the requirements of [40 CFR 63.6\(g\)](#) for alternative work practices.

[[78 FR 6708](#), Jan. 30, 2013, as amended at [78 FR 14457](#), Mar. 6, 2013]

## Table 2d to Subpart ZZZZ of Part 63 - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in [§§ 63.6603](#) and [63.6640](#), you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

| For each . . .   | You must meet the following requirement, except during periods of startup . . .  | During periods of startup you must . . .  |
|--|--|---|
| 1. Non-Emergency, non-black start CI stationary RICE ≤300 HP | a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; <sup>1</sup><br>b. Inspect air cleaner | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of |

| For each . . .   | You must meet the following requirement, except during periods of startup . . .   | During periods of startup you must . . .  |
|--|---|---|
|  | <p>every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;</p> <p>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p>  | <p>the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.</p> |
| 2. Non-Emergency, non-black start CI stationary RICE $300 < \text{HP} \leq 500$  | <p>a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O<sub>2</sub>; or</p> <p>b. Reduce CO emissions by 70 percent or more.</p>   |   |
| 3. Non-Emergency, non-black start CI stationary RICE $> 500$ HP                  | <p>a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O<sub>2</sub>; or</p> <p>b. Reduce CO emissions by 70 percent or more.</p>   |   |
| 4. Emergency stationary CI RICE and black start stationary CI RICE. <sup>2</sup> | <p>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;<sup>1</sup></p> <p>b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>c. Inspect all hoses and belts every 500 hours</p> |   |

| For each . . .  | You must meet the following requirement, except during periods of startup . . .  | During periods of startup you must . . . |
|---|--|--|
| <p>5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE &gt;500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE &gt;500 HP that operate 24 hours or less per calendar year.<sup>2</sup></p> | <p>of operation or annually, whichever comes first, and replace as necessary.</p> <p>a. Change oil and filter every 500 hours of operation or annually, whichever comes first;<sup>1</sup></p> <p>b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p> |  |
| <p>6. Non-emergency, non-black start 2SLB stationary RICE</p>   | <p>a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;<sup>1</sup></p> <p>b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.</p>   |  |
| <p>7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP</p>   | <p>a. Change oil and filter every 1,440 hours of operation or annually,</p>  |  |

| For each . . .   | You must meet the following requirement, except during periods of startup . . .  | During periods of startup you must . . . |
|--|--|--|
|  | <p>whichever comes first;<sup>1</sup></p> <p>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.</p>  |  |
| 8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP  | <p>a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;<sup>1</sup></p> <p>b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.</p> |  |
| 9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year | <p>Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.</p>   |  |
| 10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP  | <p>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;<sup>1</sup></p> <p>b. Inspect spark plugs</p>   |  |

| For each . . .  | You must meet the following requirement, except during periods of startup . . .   | During periods of startup you must . . . |
|---|---|--|
| <p>11. Non-emergency, non-black start 4SRB remote stationary RICE &gt;500 HP</p>  | <p>every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.</p> <p>a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;<sup>1</sup></p> <p>b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and</p> <p>c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.</p> |  |
| <p>12. Non-emergency, non-black start 4SRB stationary RICE &gt;500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year</p>           | <p>Install NSCR to reduce HAP emissions from the stationary RICE.</p>   |  |
| <p>13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis</p> | <p>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;<sup>1</sup></p> <p>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first,</p>   |  |

| For each . . . | You must meet the following requirement, except during periods of startup . . .  | During periods of startup you must . . . |
|----------------|--|--|
|                | and replace as necessary; and<br>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. |  |

<sup>1</sup> Sources have the option to utilize an oil analysis program as described in [§ 63.6625\(i\)](#) or [\(j\)](#) in order to extend the specified oil change requirement in Table 2d of this subpart.

<sup>2</sup> If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[[78 FR 6709](#), Jan. 30, 2013]

## Table 3 to Subpart ZZZZ of Part 63 - Subsequent Performance Tests

As stated in [§§ 63.6615](#) and [63.6620](#), you must comply with the following subsequent performance test requirements:

| For each . . .  | Complying with the requirement to . . .  | You must . . .  |
|---|--|---|
| 1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE $\geq$ 250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources | Reduce CO emissions and not using a CEMS | Conduct subsequent performance tests semiannually. <sup>1</sup> |
| 2. 4SRB stationary RICE $\geq$ 5,000 HP located at  | Reduce formaldehyde                      | Conduct subsequent  |



| For each . . .  | Complying with the requirement to . . .                                | You must . . .  |
|---|--|---|
| major sources   | emissions  | performance tests semiannually. <sup>1</sup>  |
| 3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources | Limit the concentration of formaldehyde in the stationary RICE exhaust | Conduct subsequent performance tests semiannually. <sup>1</sup>                           |
| 4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE                        | Limit or reduce CO emissions and not using a CEMS                      | Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first. |
| 5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE                            | Limit or reduce CO emissions and not using a CEMS                      | Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first. |

<sup>1</sup> After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[[78 FR 6711](#), Jan. 30, 2013]

## Table 4 to Subpart ZZZZ of Part 63 - Requirements for Performance Tests

As stated in [§§ 63.6610](#), [63.6611](#), [63.6620](#), and [63.6640](#), you must comply with the following requirements for performance tests for stationary RICE:

| For each . . .                        | Complying with the requirement to . . . | You must . . .   | Using . . . | According to the following requirements . . .   |
|---------------------------------------|---|--|-------------|---|
| 1. 2SLB, 4SLB, and CI stationary RICE | a. reduce CO emissions                  | i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and |             | (a) For CO and O <sub>2</sub> measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled |

| For each .<br>..        | Complying<br>with the<br>requirement to<br>... | You must ...  | Using ...   | According to the<br>following requirements<br>...   |
|-------------------------|--|---|---|---|
|                         |  |   |   | <p>at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of <a href="#">Section 11.1.1</a> of Method 1 of <a href="#">40 CFR part 60, appendix A-1</a>, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to <a href="#">Section 8.1.2</a> of Method 7E of <a href="#">40 CFR part 60, appendix A-4</a>.</p> |
|                         |  | <p>ii. Measure the O<sub>2</sub> at the inlet and outlet of the control device; and</p> | <p>(1) Method 3 or 3A or 3B of <a href="#">40 CFR part 60, appendix A-2</a>, or ASTM Method D6522-00 (Reapproved 2005)<sup>a</sup> (heated probe not necessary)</p> | <p>(b) Measurements to determine O<sub>2</sub> must be made at the same time as the measurements for CO concentration.</p>  |
|                         |  | <p>iii. Measure the CO at the inlet and the outlet of the control device</p>            | <p>(1) ASTM D6522-00 (Reapproved 2005)<sup>a b c</sup> (heated probe not necessary) or Method 10 of <a href="#">40 CFR part 60, appendix A-4</a></p>                | <p>(c) The CO concentration must be at 15 percent O<sub>2</sub>, dry basis.</p>   |
| 2. 4SRB stationary RICE | a. reduce formaldehyde emissions               | i. Select the sampling port location and the  |   | <p>(a) For formaldehyde, O<sub>2</sub>, and moisture measurement, ducts ≤6</p>  |

| For each .<br>.. | Complying<br>with the<br>requirement to<br>...  | You must ...  | Using ...   | According to the<br>following requirements<br>...   |
|------------------|---|---|---|---|
|                  |   | number/location of<br>traverse points at the<br>inlet and outlet of<br>the control device;<br>and |   | inches in diameter may<br>be sampled at a single<br>point located at the duct<br>centroid and ducts >6<br>and ≤12 inches in<br>diameter may be sampled<br>at 3 traverse points<br>located at 16.7, 50.0, and<br>83.3% of the<br>measurement line ('3-<br>point long line'). If the<br>duct is >12 inches in<br>diameter <i>and</i> the<br>sampling port location<br>meets the two and half-<br>diameter criterion of<br><a href="#">Section 11.1.1</a> of Method<br>1 of <a href="#">40 CFR part 60,</a><br><a href="#">appendix A</a> , the duct<br>may be sampled at '3-<br>point long line';<br>otherwise, conduct the<br>stratification testing and<br>select sampling points<br>according to <a href="#">Section</a><br><a href="#">8.1.2</a> of Method 7E of <a href="#">40</a><br><a href="#">CFR part 60, appendix</a><br><a href="#">A</a> . |
|                  | ii. Measure O <sub>2</sub> at the<br>inlet and outlet of<br>the control device;<br>and    |   | (1) Method 3 or 3A<br>or 3B of <a href="#">40 CFR</a><br><a href="#">part 60, appendix</a><br><a href="#">A-2</a> , or ASTM<br>Method D6522-00<br>(Reapproved 2005) <sup>a</sup><br>(heated probe not<br>necessary) | (a) Measurements to<br>determine O <sub>2</sub><br>concentration must be<br>made at the same time as<br>the measurements for<br>formaldehyde or THC<br>concentration.   |
|                  | iii. Measure moisture<br>content at the inlet<br>and outlet of the<br>control device; and |   | (1) Method 4 of <a href="#">40</a><br><a href="#">CFR part 60,</a><br><a href="#">appendix A-3</a> , or<br>Method 320 of <a href="#">40</a><br><a href="#">CFR part 63,</a><br><a href="#">appendix A</a> , or      | (a) Measurements to<br>determine moisture<br>content must be made at<br>the same time and<br>location as the<br>measurements for  |

| For each .<br>..         | Complying<br>with the<br>requirement to<br>...   | You must ...  | Using ...  | According to the<br>following requirements<br>...   |
|--------------------------|--|---|--|---|
| 3.<br>Stationary<br>RICE | a. limit the<br>concentration<br>of formalde-<br>hyde or CO in<br>the stationary<br>RICE exhaust | iv. If demonstrating<br>compliance with the<br>formaldehyde<br>percent reduction<br>requirement,<br>measure formalde-<br>hyde at the inlet and<br>the outlet of the<br>control device | ASTM D 6348-03 <sup>a</sup><br><br>(1) Method 320 or<br>323 of <a href="#">40 CFR part<br/>63, appendix A</a> ; or<br>ASTM D6348-03 <sup>a</sup> ,<br>provided in ASTM<br>D6348-03 Annex<br>A5 (Analyte<br>Spiking Technique),<br>the percent R must<br>be greater than or<br>equal to 70 and less<br>than or equal to 130 | formaldehyde or THC<br>concentration.<br><br>(a) Formaldehyde<br>concentration must be at<br>15 percent O <sub>2</sub> , dry basis.<br>Results of this test<br>consist of the average of<br>the three 1-hour or<br>longer runs.   |
|                          |  | v. If demonstrating<br>compliance with the<br>THC percent<br>reduction<br>requirement,<br>measure THC at the<br>inlet and the outlet<br>of the control device                         | (1) Method 25A,<br>reported as propane,<br>of <a href="#">40 CFR part 60,<br/>appendix A-7</a>   | (a) THC concentration<br>must be at 15 percent O <sub>2</sub> ,<br>dry basis. Results of this<br>test consist of the<br>average of the three 1-<br>hour or longer runs.   |
|                          |  | i. Select the<br>sampling port<br>location and the<br>number/location of<br>traverse points at the<br>exhaust of the<br>stationary RICE; and  |  | (a) For formaldehyde,<br>CO, O <sub>2</sub> , and moisture<br>measurement, ducts ≤6<br>inches in diameter may<br>be sampled at a single<br>point located at the duct<br>centroid and ducts >6<br>and ≤12 inches in<br>diameter may be sampled<br>at 3 traverse points<br>located at 16.7, 50.0, and<br>83.3% of the<br>measurement line ('3-<br>point long line'). If the<br>duct is >12 inches in<br>diameter <i>and</i> the<br>sampling port location<br>meets the two and half-<br>diameter criterion of |

| For each .<br>.. | Complying<br>with the<br>requirement to<br>...   | You must ... | Using ...  | According to the<br>following requirements<br>...   |
|------------------|--|--------------|--|---|
|                  |  |              |  | <a href="#">Section 11.1.1</a> of Method 1 of <a href="#">40 CFR part 60, appendix A</a> , the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to <a href="#">Section 8.1.2</a> of Method 7E of <a href="#">40 CFR part 60, appendix A</a> . If using a control device, the sampling site must be located at the outlet of the control device. |
|                  | ii. Determine the O <sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; and |              | (1) Method 3 or 3A or 3B of <a href="#">40 CFR part 60, appendix A-2</a> , or ASTM Method D6522-00 (Reapproved 2005) <sup>a</sup> (heated probe not necessary)                           | (a) Measurements to determine O <sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.   |
|                  | iii. Measure moisture content of the station-ary RICE exhaust at the sampling port location; and                 |              | (1) Method 4 of <a href="#">40 CFR part 60, appendix A-3</a> , or Method 320 of <a href="#">40 CFR part 63, appendix A</a> , or ASTM D 6348-03 <sup>a</sup>                              | (a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.   |
|                  | iv. Measure formalde-hyde at the exhaust of the station-ary RICE; or   |              | (1) Method 320 or 323 of <a href="#">40 CFR part 63, appendix A</a> ; or ASTM D6348-03 <sup>a</sup> , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must | (a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.  |

| For each .<br>.. | Complying<br>with the<br>requirement to<br>... | You must ...   | Using ...   | According to the<br>following requirements<br>...  |
|------------------|--|--|---|--|
|                  |  | v. measure CO at the<br>exhaust of the<br>station-ary RICE | be greater than or<br>equal to 70 and less<br>than or equal to 130<br>(1) Method 10 of <a href="#">40</a><br><a href="#">CFR part 60,</a><br><a href="#">appendix A-4,</a><br>ASTM Method<br>D6522-00 (2005) <sup>a c</sup> ,<br>Method 320 of <a href="#">40</a><br><a href="#">CFR part 63,</a><br><a href="#">appendix A,</a> or<br>ASTM D6348-03 <sup>a</sup> | (a) CO concentration<br>must be at 15 percent O <sub>2</sub> ,<br>dry basis. Results of this<br>test consist of the<br>average of the three 1-<br>hour or longer runs. |

<sup>a</sup> You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

<sup>b</sup> You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[[79 FR 11290](#), Feb. 27, 2014]

## Table 5 to Subpart ZZZZ of Part 63 - Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in [§§ 63.6612](#), [63.6625](#) and [63.6630](#), you must initially comply with the emission and operating limitations as required by the following:

| For each ...   | Complying with the<br>requirement to ...                              | You have demonstrated initial<br>compliance if ...   |
|--|---|--|
| 1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source | a. Reduce CO emissions and using oxidation catalyst, and using a CPMS | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and<br>ii. You have installed a CPMS to |

| For each . . .   | Complying with the requirement to . . .                                      | You have demonstrated initial compliance if . . .   |
|--|--|---|
| of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP  |  | continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a> ; and<br>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.  |
| 2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP   | a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and<br><br>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a> ; and<br>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.                  |
| 3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP | a. Reduce CO emissions and not using oxidation catalyst                      | i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and<br>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in <a href="#">§ 63.6625(b)</a> ; and<br>iii. You have recorded the approved operating parameters (if any) during the initial performance test. |
| 4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP   | a. Limit the concentration of CO, and not using oxidation catalyst           | i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and<br>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in <a href="#">§ 63.6625(b)</a> ;  |

| For each . . .   | Complying with the requirement to . . .                   | You have demonstrated initial compliance if . . .  |
|--|---|--|
| <p>5. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE <math>\geq</math>250 HP located at a major source of HAP, non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</p> | <p>a. Reduce CO emissions, and using a CEMS</p>           | <p>and</p> <p>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p> <p>i. You have installed a CEMS to continuously monitor CO and either O<sub>2</sub> or CO<sub>2</sub> at both the inlet and outlet of the oxidation catalyst according to the requirements in <a href="#">§ 63.6625(a)</a>; and</p> <p>ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of <a href="#">40 CFR part 60, appendix B</a>; and</p> <p>iii. The average reduction of CO calculated using <a href="#">§ 63.6620</a> equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.</p> |
| <p>6. Non-emergency stationary CI RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP located at an area source of HAP</p>  | <p>a. Limit the concentration of CO, and using a CEMS</p> | <p>i. You have installed a CEMS to continuously monitor CO and either O<sub>2</sub> or CO<sub>2</sub> at the outlet of the oxidation catalyst according to the requirements in <a href="#">§ 63.6625(a)</a>; and</p> <p>ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of <a href="#">40 CFR part 60, appendix B</a>; and</p> <p>iii. The average concentration of CO calculated using <a href="#">§ 63.6620</a> is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.</p>  |



| For each . . .  | Complying with the requirement to . . .   | You have demonstrated initial compliance if . . .   |
|---|---|---|
| 7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP  | a. Reduce formaldehyde emissions and using NSCR   | <p>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and</p> <p>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>                  |
| 8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP  | a. Reduce formaldehyde emissions and not using NSCR   | <p>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and</p> <p>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p> |
| 9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major | a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or | <p>i. The average formaldehyde concentration, corrected to 15 percent O<sub>2</sub>, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and</p>   |

| For each . . .  | Complying with the requirement to . . .  | You have demonstrated initial compliance if . . .  |
|---|--|--|
| source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP   | NSCR   | <ul style="list-style-type: none"> <li>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a>; and</li> <li>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</li> </ul>   |
| 10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP | <ul style="list-style-type: none"> <li>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</li> </ul> | <ul style="list-style-type: none"> <li>i. The average formaldehyde concentration, corrected to 15 percent O<sub>2</sub>, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and</li> <li>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in <a href="#">§ 63.6625(b)</a>; and</li> <li>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</li> </ul> |
| 11. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP  | <ul style="list-style-type: none"> <li>a. Reduce CO emissions</li> </ul>   | <ul style="list-style-type: none"> <li>i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.</li> </ul>   |
| 12. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP  | <ul style="list-style-type: none"> <li>a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust</li> </ul>                                    | <ul style="list-style-type: none"> <li>i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O<sub>2</sub>, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.</li> </ul>   |
| 13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year   | <ul style="list-style-type: none"> <li>a. Install an oxidation catalyst</li> </ul>   | <ul style="list-style-type: none"> <li>i. You have conducted an initial compliance demonstration as specified in <a href="#">§ 63.6630(e)</a> to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to</li> </ul>   |

| For each . . .  | Complying with the requirement to . . . | You have demonstrated initial compliance if . . .  |
|---|---|--|
| 14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year | a. Install NSCR                         | <p>47 ppmvd at 15 percent O<sub>2</sub>;</p> <p>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a>, or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.</p> <p>i. You have conducted an initial compliance demonstration as specified in <a href="#">§ 63.6630(e)</a> to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O<sub>2</sub>, or the average reduction of emissions of THC is 30 percent or more;</p> <p>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in <a href="#">§ 63.6625(b)</a>, or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.</p> |

[[78 FR 6712](#), Jan. 30, 2013]

## Table 6 to Subpart ZZZZ of Part 63 - Continuous Compliance With Emission Limitations, and Other Requirements

As stated in [§ 63.6640](#), you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

| For each . . .   | Complying with the requirement to . . . | You must demonstrate continuous compliance by . . .  |
|--|---|--|
| 1. New or reconstructed non-emergency 2SLB stationary RICE | a. Reduce CO emissions and using        | i. Conducting semiannual performance tests for CO to |

| For each . . .  | Complying with the requirement to . . .   | You must demonstrate continuous compliance by . . .   |
|---|---|---|
| <p>&gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE</p> <p>≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE</p> <p>&gt;500 HP located at a major source of HAP</p>   | <p>an oxidation catalyst, and using a CPMS</p>  | <p>demonstrate that the required CO percent reduction is achieved<sup>a</sup>; and</p> <p>ii. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p> <p>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p> |
| <p>2. New or reconstructed non-emergency 2SLB stationary RICE</p> <p>&gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE</p> <p>≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE</p> <p>&gt;500 HP located at a major source of HAP</p>                         | <p>a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS</p>                             | <p>i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved<sup>a</sup>; and</p> <p>ii. Collecting the approved operating parameter (if any) data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>   |
| <p>3. New or reconstructed non-emergency 2SLB stationary RICE</p> <p>&gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE</p> <p>≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE</p> <p>&gt;500 HP located at a major source of HAP, and existing non-emergency</p> | <p>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS</p> | <p>i. Collecting the monitoring data according to <a href="#">§ 63.6625(a)</a>, reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to <a href="#">§ 63.6620</a>; and</p> <p>ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the</p>  |

| For each . . .  | Complying with the requirement to . . .             | You must demonstrate continuous compliance by . . .  |
|---|---|--|
| stationary CI RICE >500 HP  |   | <p>4-hour averaging period, or that the emission remain at or below the CO concentration limit; and</p> <p>iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of <a href="#">40 CFR part 60, appendix B</a>, as well as daily and periodic data quality checks in accordance with <a href="#">40 CFR part 60, appendix F</a>, procedure 1.</p>  |
| 4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP                      | a. Reduce formaldehyde emissions and using NSCR     | <p>i. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>ii. Reducing these data to 4-hour rolling averages; and</p> <p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p> <p>iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p>                                 |
| 5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP                      | a. Reduce formaldehyde emissions and not using NSCR | <p>i. Collecting the approved operating parameter (if any) data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>ii. Reducing these data to 4-hour rolling averages; and</p> <p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p> <p>Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of</p> |
| 6. Non-emergency 4SRB stationary RICE with a brake HP $\geq 5,000$ located at a major source of HAP | a. Reduce formaldehyde emissions                    |  |

| For each . . .   | Complying with the requirement to . . .   | You must demonstrate continuous compliance by . . .   |
|--|---|---|
| <p>7. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE <math>250 \leq \text{HP} \leq 500</math> located at a major source of HAP</p> | <p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</p>     | <p>THC determined from the performance test is equal to or greater than 30 percent.<sup>a</sup></p> <p>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit<sup>a</sup>; and</p> <p>ii. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p> <p>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p> |
| <p>8. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE <math>250 \leq \text{HP} \leq 500</math> located at a major source of HAP</p> | <p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</p> | <p>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit<sup>a</sup>; and</p> <p>ii. Collecting the approved operating parameter (if any) data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>  |
| <p>9. Existing emergency and black start stationary RICE <math>\leq 500</math> HP located at a major source of HAP, existing non-emergency stationary</p>  | <p>a. Work or Management practices</p>  | <p>i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance</p>  |

| For each . . .  | Complying with the requirement to . . .  | You must demonstrate continuous compliance by . . .   |
|---|--|---|
| <p>RICE &lt;100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE &gt;500 HP located at an area source of HAP that are remote stationary RICE</p> |  | <p>instructions; or</p> <p>ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</p>  |
| <p>10. Existing stationary CI RICE &gt;500 HP that are not limited use stationary RICE</p>  | <p>a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst</p> | <p>i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p> <p>ii. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating</p> |



| For each . . .   | Complying with the requirement to . . .   | You must demonstrate continuous compliance by . . .   |
|--|---|---|
| 11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE | a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst | <p>limitations for the catalyst inlet temperature; and</p> <p>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p> <p>i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p> <p>ii. Collecting the approved operating parameter (if any) data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p> |
| 12. Existing limited use CI stationary RICE >500 HP                              | a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst   | <p>i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p> <p>ii. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour</p>   |



| For each . . .  | Complying with the requirement to . . .   | You must demonstrate continuous compliance by . . .   |
|---|---|---|
| 13. Existing limited use CI stationary RICE >500 HP   | a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst | <p>rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p> <p>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p> <p>i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p> <p>ii. Collecting the approved operating parameter (if any) data according to <a href="#">§ 63.6625(b)</a>; and</p> <p>iii. Reducing these data to 4-hour rolling averages; and</p> <p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p> |
| 14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year | a. Install an oxidation catalyst  | <p>i. Conducting annual compliance demonstrations as specified in <a href="#">§ 63.6640(c)</a> to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O<sub>2</sub>; and either</p> <p>ii. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>, reducing these data to 4-</p>  |

| For each . . .  | Complying with the requirement to . . . | You must demonstrate continuous compliance by . . .  |
|---|---|--|
| 15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year | a. Install NSCR                         | <p>hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or</p> <p>iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.</p> <p>i. Conducting annual compliance demonstrations as specified in <a href="#">§ 63.6640(c)</a> to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O<sub>2</sub>, or the average reduction of emissions of THC is 30 percent or more; and either</p> <p>ii. Collecting the catalyst inlet temperature data according to <a href="#">§ 63.6625(b)</a>, reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or</p> <p>iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.</p> |

<sup>a</sup> After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[[78 FR 6715](#), Jan. 30, 2013]

## Table 7 to Subpart ZZZZ of Part 63 - Requirements for Reports

As stated in [§ 63.6650](#), you must comply with the following requirements for reports:

| For each . . .   | You must submit a . . . | The report must contain . . .   | You must submit the report . . .   |
|--|-------------------------|---|--|
| 1. Existing non-emergency, non-black start stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE $>500$ HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE $>500$ HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE $>300$ HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE $>500$ HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP | Compliance report       | <p>a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in <a href="#">§ 63.8(c)(7)</a>, a statement that there were not periods during which the CMS was out-of-control during the reporting period; or</p> <p>b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in <a href="#">§ 63.6650(d)</a>. If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in <a href="#">§ 63.8(c)(7)</a>, the information in <a href="#">§ 63.6650(e)</a>; or</p> <p>c. If you had a malfunction during the reporting period, the information in <a href="#">§ 63.6650(c)(4)</a>.</p> | <p>i. Semiannually according to the requirements in <a href="#">§ 63.6650(b)(1)-(5)</a> for engines that are not limited use stationary RICE subject to numerical emission limitations; and</p> <p>ii. Annually according to the requirements in <a href="#">§ 63.6650(b)(6)-(9)</a> for engines that are limited use stationary RICE subject to numerical emission limitations.</p> |
| 2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or  | Report                  | a. The fuel flow rate of each fuel and the heating values that were used in your  | i. Annually, according to the requirements in <a href="#">§</a>  |

| For each . . .   | You must submit a . . . | The report must contain . . .   | You must submit the report . . .   |
|--|-------------------------|---|--|
| digester gas equivalent to 10 percent or more of the gross heat input on an annual basis   |                         | <p>calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and</p> <p>b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and</p> <p>c. Any problems or errors suspected with the meters.</p> | <p><a href="#">63.6650</a>.</p> <p>i. See item 2.a.i.</p> <p>i. See item 2.a.i.</p>    |
| 3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year  | Compliance report       | a. The results of the annual compliance demonstration, if conducted during the reporting period.  | i. Semiannually according to the requirements in <a href="#">§ 63.6650(b)(1)-(5)</a> . |
| 4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in <a href="#">§ 63.6640(f)(2)(ii)</a> and <a href="#">(iii)</a> or that operate for the purposes specified in <a href="#">§ 63.6640(f)(4)(ii)</a> | Report                  | a. The information in <a href="#">§ 63.6650(h)(1)</a>   | i. annually according to the requirements in <a href="#">§ 63.6650(h)(2)-(3)</a> .     |

[[78 FR 6719](#), Jan. 30, 2013]

## Table 8 to Subpart ZZZZ of Part 63 - Applicability of General Provisions to Subpart ZZZZ.

As stated in [§ 63.6665](#), you must comply with the following applicable general provisions.

| General provisions citation | Subject of citation   | Applies to subpart | Explanation  |
|-----------------------------|---|--------------------|--|
| § 63.1                      | General applicability of the General Provisions                                   | Yes.               | Additional terms defined in <a href="#">§ 63.6675</a> .              |
| § 63.2                      | Definitions   | Yes                |  |
| § 63.3                      | Units and abbreviations   | Yes.               |  |
| § 63.4                      | Prohibited activities and circumvention   | Yes.               |  |
| § 63.5                      | Construction and reconstruction   | Yes.               |  |
| § 63.6(a)                   | Applicability   | Yes.               |  |
| § 63.6(b)(1)-(4)            | Compliance dates for new and reconstructed sources                                | Yes.               |  |
| § 63.6(b)(5)                | Notification  | Yes.               |  |
| § 63.6(b)(6)                | [Reserved]  |                    |  |
| § 63.6(b)(7)                | Compliance dates for new and reconstructed area sources that become major sources | Yes.               |  |
| § 63.6(c)(1)-(2)            | Compliance dates for existing sources   | Yes.               |  |
| § 63.6(c)(3)-(4)            | [Reserved]  |                    |  |
| § 63.6(c)(5)                | Compliance dates for existing area sources that become major sources              | Yes.               |  |
| § 63.6(d)                   | [Reserved]  |                    |  |
| § 63.6(e)                   | Operation and maintenance   | No.                |  |
| § 63.6(f)(1)                | Applicability of standards  | No.                | Subpart ZZZZ does not contain opacity or visible emission standards. |
| § 63.6(f)(2)                | Methods for determining compliance  | Yes.               |  |
| § 63.6(f)(3)                | Finding of compliance   | Yes.               |  |
| § 63.6(g)(1)-(3)            | Use of alternate standard   | Yes.               |  |
| § 63.6(h)                   | Opacity and visible emission standards  | No                 |  |
| § 63.6(i)                   | Compliance extension procedures and criteria                                      | Yes.               | Subpart ZZZZ contains  |
| § 63.6(j)                   | Presidential compliance exemption   | Yes.               |  |
| § 63.7(a)(1)-(2)            | Performance test dates  | Yes                |  |

| General provisions citation | Subject of citation  | Applies to subpart | Explanation  |
|-----------------------------|--|--------------------|--|
|                             |  |                    | performance test dates at <a href="#">§§ 63.6610</a> , <a href="#">63.6611</a> , and <a href="#">63.6612</a> . |
| § 63.7(a)(3)                | CAA section 114 authority  | Yes.               |  |
| § 63.7(b)(1)                | Notification of performance test                                     | Yes                | Except that <a href="#">§ 63.7(b)(1)</a> only applies as specified in <a href="#">§ 63.6645</a> .              |
| § 63.7(b)(2)                | Notification of rescheduling   | Yes                | Except that <a href="#">§ 63.7(b)(2)</a> only applies as specified in <a href="#">§ 63.6645</a> .              |
| § 63.7(c)                   | Quality assurance/test plan  | Yes                | Except that <a href="#">§ 63.7(c)</a> only applies as specified in <a href="#">§ 63.6645</a> .                 |
| § 63.7(d)                   | Testing facilities   | Yes.               |  |
| § 63.7(e)(1)                | Conditions for conducting performance tests                          | No.                | Subpart ZZZZ specifies conditions for conducting performance tests at <a href="#">§ 63.6620</a> .              |
| § 63.7(e)(2)                | Conduct of performance tests and reduction of data                   | Yes                | Subpart ZZZZ specifies test methods at <a href="#">§ 63.6620</a> .   |
| § 63.7(e)(3)                | Test run duration  | Yes.               |  |
| § 63.7(e)(4)                | Administrator may require other testing under section 114 of the CAA | Yes.               |  |
| § 63.7(f)                   | Alternative test method provisions                                   | Yes.               |  |
| § 63.7(g)                   | Performance test data analysis, recordkeeping, and reporting         | Yes.               |  |
| § 63.7(h)                   | Waiver of tests  | Yes.               |  |
| § 63.8(a)(1)                | Applicability of monitoring requirements                             | Yes                | Subpart ZZZZ contains specific requirements for monitoring at <a href="#">§ 63.6625</a> .                      |
| § 63.8(a)(2)                | Performance specifications   | Yes.               |  |
| § 63.8(a)(3)                | [Reserved]   |                    |  |
| § 63.8(a)(4)                | Monitoring for control devices                                       | No.                |  |
| § 63.8(b)(1)                | Monitoring   | Yes.               |  |
| § 63.8(b)(2)-(3)            | Multiple effluents and multiple monitoring systems                   | Yes.               |  |
| § 63.8(c)(1)                | Monitoring system operation  | Yes.               |  |

| General provisions citation | Subject of citation   | Applies to subpart   | Explanation  |
|-----------------------------|---|--|--|
|                             | and maintenance   |  |  |
| § 63.8(c)(1)(i)             | Routine and predictable SSM                                     | No   |  |
| § 63.8(c)(1)(ii)            | SSM not in Startup Shutdown Malfunction Plan                    | Yes.   |  |
| § 63.8(c)(1)(iii)           | Compliance with operation and maintenance requirements          | No   |  |
| § 63.8(c)(2)-(3)            | Monitoring system installation                                  | Yes.   |  |
| § 63.8(c)(4)                | Continuous monitoring system (CMS) requirements                 | Yes  | Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).   |
| § 63.8(c)(5)                | COMS minimum procedures   | No   | Subpart ZZZZ does not require COMS.  |
| § 63.8(c)(6)-(8)            | CMS requirements  | Yes  | Except that subpart ZZZZ does not require COMS.  |
| § 63.8(d)                   | CMS quality control   | Yes.   |  |
| § 63.8(e)                   | CMS performance evaluation                                      | Yes  | Except for <a href="#">§ 63.8(e)(5)(ii)</a> , which applies to COMS.   |
|                             |   | Except that <a href="#">§ 63.8(e)</a> only applies as specified in <a href="#">§ 63.6645</a> . |  |
| § 63.8(f)(1)-(5)            | Alternative monitoring method                                   | Yes  | Except that <a href="#">§ 63.8(f)(4)</a> only applies as specified in <a href="#">§ 63.6645</a> .  |
| § 63.8(f)(6)                | Alternative to relative accuracy test                           | Yes  | Except that <a href="#">§ 63.8(f)(6)</a> only applies as specified in <a href="#">§ 63.6645</a> .  |
| § 63.8(g)                   | Data reduction  | Yes  | Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at <a href="#">§§ 63.6635</a> and <a href="#">63.6640</a> . |
| § 63.9(a)                   | Applicability and State delegation of notification requirements | Yes.   |  |
| § 63.9(b)(1)-(5)            | Initial notifications   | Yes  | Except that <a href="#">§ 63.9(b)(3)</a> is reserved.  |

| General provisions citation | Subject of citation   | Applies to subpart   | Explanation   |
|-----------------------------|---|--|---|
|                             |   | Except that <a href="#">§ 63.9(b)</a> only applies as specified in <a href="#">§ 63.6645</a> . |   |
| § 63.9(c)                   | Request for compliance extension                                | Yes  | Except that <a href="#">§ 63.9(c)</a> only applies as specified in <a href="#">§ 63.6645</a> .  |
| § 63.9(d)                   | Notification of special compliance requirements for new sources | Yes  | Except that <a href="#">§ 63.9(d)</a> only applies as specified in <a href="#">§ 63.6645</a> .  |
| § 63.9(e)                   | Notification of performance test                                | Yes  | Except that <a href="#">§ 63.9(e)</a> only applies as specified in <a href="#">§ 63.6645</a> .  |
| § 63.9(f)                   | Notification of visible emission (VE)/opacity test              | No   | Subpart ZZZZ does not contain opacity or VE standards.  |
| § 63.9(g)(1)                | Notification of performance evaluation                          | Yes  | Except that <a href="#">§ 63.9(g)</a> only applies as specified in <a href="#">§ 63.6645</a> .  |
| § 63.9(g)(2)                | Notification of use of COMS data                                | No   | Subpart ZZZZ does not contain opacity or VE standards.  |
| § 63.9(g)(3)                | Notification that criterion for alternative to RATA is exceeded | Yes  | If alternative is in use.   |
|                             |   | Except that <a href="#">§ 63.9(g)</a> only applies as specified in <a href="#">§ 63.6645</a> . |   |
| § 63.9(h)(1)-(6)            | Notification of compliance status                               | Yes  | Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. <a href="#">§ 63.9(h)(4)</a> is reserved.<br>Except that <a href="#">§ 63.9(h)</a> only applies as specified in <a href="#">§ 63.6645</a> . |
| § 63.9(i)                   | Adjustment of submittal deadlines                               | Yes.   |   |



| General provisions citation | Subject of citation                                   | Applies to subpart | Explanation   |
|-----------------------------|---|--------------------|---|
| § 63.9(j)                   | Change in previous information                        | Yes.               |   |
| § 63.9(k)                   | Electronic reporting procedures                       | Yes                | Only as specified in <a href="#">§ 63.9(j)</a> .                                    |
| § 63.10(a)                  | Administrative provisions for recordkeeping/reporting | Yes.               |   |
| § 63.10(b)(1)               | Record retention                                      | Yes                | Except that the most recent 2 years of data do not have to be retained on site.     |
| § 63.10(b)(2)(i)-(v)        | Records related to SSM                                | No.                |   |
| § 63.10(b)(2)(vi)-(xi)      | Records   | Yes.               |   |
| § 63.10(b)(2)(xii)          | Record when under waiver                              | Yes.               |   |
| § 63.10(b)(2)(xiii)         | Records when using alternative to RATA                | Yes                | For CO standard if using RATA alternative.  |
| § 63.10(b)(2)(xiv)          | Records of supporting documentation                   | Yes.               |   |
| § 63.10(b)(3)               | Records of applicability determination                | Yes.               |   |
| § 63.10(c)                  | Additional records for sources using CEMS             | Yes                | Except that <a href="#">§ 63.10(c)(2)-(4)</a> and <a href="#">(9)</a> are reserved. |
| § 63.10(d)(1)               | General reporting requirements                        | Yes.               |   |
| § 63.10(d)(2)               | Report of performance test results                    | Yes.               |   |
| § 63.10(d)(3)               | Reporting opacity or VE observations                  | No                 | Subpart ZZZZ does not contain opacity or VE standards.                              |
| § 63.10(d)(4)               | Progress reports                                      | Yes.               |   |
| § 63.10(d)(5)               | Startup, shutdown, and malfunction reports            | No.                |   |
| § 63.10(e)(1) and (2)(i)    | Additional CMS Reports                                | Yes.               |   |
| § 63.10(e)(2)(ii)           | COMS-related report                                   | No                 | Subpart ZZZZ does not require COMS.   |
| § 63.10(e)(3)               | Excess emission and parameter exceedances reports     | Yes.               | Except that <a href="#">§ 63.10(e)(3)(i)(C)</a> is reserved.                        |
| § 63.10(e)(4)               | Reporting COMS data                                   | No                 | Subpart ZZZZ does not require COMS.   |
| § 63.10(f)                  | Waiver for  | Yes.               |   |

| General provisions citation | Subject of citation             | Applies to subpart | Explanation |
|-----------------------------|---------------------------------|--------------------|-------------|
|                             | recordkeeping/reporting         |                    |             |
| § 63.11                     | Flares                          | No.                |             |
| § 63.12                     | State authority and delegations | Yes.               |             |
| § 63.13                     | Addresses                       | Yes.               |             |
| § 63.14                     | Incorporation by reference      | Yes.               |             |
| § 63.15                     | Availability of information     | Yes.               |             |

[[75 FR 9688](#), Mar. 3, 2010, as amended at [78 FR 6720](#), Jan. 30, 2013; [85 FR 73912](#), Nov. 19, 2020]

## Appendix A to Subpart ZZZZ of Part 63 - Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

### 1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O<sub>2</sub>) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

### 1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O<sub>2</sub>).

| Analyte                  | CAS No.   | Sensitivity  |
|--------------------------|-----------|--|
| Carbon monoxide (CO)     | 630-08-0  | Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive. |
| Oxygen (O <sub>2</sub> ) | 7782-44-7 |  |

### 1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to [40 CFR part 63, subpart ZZZZ](#). Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

### 1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

### 1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O<sub>2</sub>, or no more than twice the permitted CO level.

### 1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

## 2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O<sub>2</sub> gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration ([Section 3.12](#)).

## 3.0 Definitions

**3.1 Measurement System.** The total equipment required for the measurement of CO and O<sub>2</sub> concentrations. The measurement system consists of the following major subsystems:

**3.1.1 Data Recorder.** A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

**3.1.2 Electrochemical (EC) Cell.** A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

**3.1.3 Interference Gas Scrubber.** A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

**3.1.4 Moisture Removal System.** Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

**3.1.5 Sample Interface.** The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

**3.2 Nominal Range.** The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

**3.3 Calibration Gas.** A vendor certified concentration of a specific analyte in an appropriate balance gas.

**3.4 Zero Calibration Error.** The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

**3.5 Up-Scale Calibration Error.** The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

**3.6 Interference Check.** A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

**3.7 Repeatability Check.** A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

**3.8 Sample Flow Rate.** The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

**3.9 Sampling Run.** A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O<sub>2</sub> and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

**3.10 Sampling Day.** A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

**3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check.** The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

**3.12 Performance-Established Configuration.** The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

#### 4.0 Interferences.

When present in sufficient concentrations, NO and NO<sub>2</sub> are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in [Section 6.2.12](#).

#### 5.0 Safety. [Reserved]

#### 6.0 Equipment and Supplies.

##### 6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

##### 6.2 Measurement System Components.

**6.2.1 Sample Probe.** A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

**6.2.2 Sample Line.** Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

**6.2.3 Calibration Assembly (optional).** A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

**6.2.4 Particulate Filter (optional).** Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components.

All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

**6.2.5 Sample Pump.** A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

**6.2.8 Sample Flow Rate Monitoring.** An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

**6.2.9 Sample Gas Manifold (optional).** A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

**6.2.10 EC cell.** A device containing one or more EC cells to determine the CO and O<sub>2</sub> concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

**6.2.11 Data Recorder.** A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O<sub>2</sub>; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

**6.2.12 Interference Gas Filter or Scrubber.** A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

**7.1 Calibration Gases.** CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O<sub>2</sub>. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ±5 percent of the label value. Dry ambient air (20.9 percent O<sub>2</sub>) is acceptable for calibration of the O<sub>2</sub> cell. If needed, any lower percentage O<sub>2</sub> calibration gas must be a mixture of O<sub>2</sub> in nitrogen.

**7.1.1 Up-Scale CO Calibration Gas Concentration.** Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

### **7.1.2 Up-Scale O<sub>2</sub> Calibration Gas Concentration.**

Select an O<sub>2</sub> gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O<sub>2</sub>. When the average exhaust gas O<sub>2</sub> readings are above 6 percent, you may use dry ambient air (20.9 percent O<sub>2</sub>) for the up-scale O<sub>2</sub> calibration gas.

**7.1.3 Zero Gas.** Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO<sub>2</sub>).

## **8.0 Sample Collection and Analysis**

### **8.1 Selection of Sampling Sites.**

**8.1.1 Control Device Inlet.** Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

**8.1.2 Exhaust Gas Outlet.** Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

**8.2 Stack Gas Collection and Analysis.** Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with [Section 10.1](#). Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in [Section 13.1](#). Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the “measurement data phase” readings to calculate the average stack gas CO and O<sub>2</sub> concentrations.

**8.3 EC Cell Rate.** Maintain the EC cell sample flow rate so that it does not vary by more than  $\pm 10$  percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than  $\pm 3$  percent, as instructed by the EC cell manufacturer.

## **9.0 Quality Control (Reserved)**

## 10.0 Calibration and Standardization

**10.1 Pre-Sampling Calibration.** Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

**10.1.1 Zero Calibration.** For both the O<sub>2</sub> and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

**10.1.2 Zero Calibration Tolerance.** For each zero gas introduction, the zero level output must be less than or equal to  $\pm 3$  percent of the up-scale gas value or  $\pm 1$  ppm, whichever is less restrictive, for the CO channel and less than or equal to  $\pm 0.3$  percent O<sub>2</sub> for the O<sub>2</sub> channel.

**10.1.3 Up-Scale Calibration.** Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this “sample conditioning phase” once per minute until readings are constant for at least two minutes. Then begin the “measurement data phase” and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

**10.1.4 Up-Scale Calibration Error.** The mean of the difference of the “measurement data phase” readings from the reported standard gas value must be less than or equal to  $\pm 5$  percent or  $\pm 1$  ppm for CO or  $\pm 0.5$  percent O<sub>2</sub>, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single “measurement data phase” reading must be less than or equal to  $\pm 2$  percent or  $\pm 1$  ppm for CO or  $\pm 0.5$  percent O<sub>2</sub>, whichever is less restrictive, respectively.

**10.2 Post-Sampling Calibration Check.** Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in [Section 10.1](#). Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the



sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

## 11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

## 12.0 Calculations and Data Analysis

Determine the CO and O<sub>2</sub> concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

## 13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

**13.1 Measurement Data Phase Performance Check.** Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is  $\pm 2$  percent, or  $\pm 1$  ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to [Section 10.1.4](#). The EC cell flow rate must conform to the specification in [Section 8.3](#).

# Example:

A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than  $\pm 2$  percent *or*  $\pm 1$  ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

**13.2 Interference Check.** Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO<sub>2</sub> gas standards that are generally recognized as representative of diesel-fueled engine NO and NO<sub>2</sub> emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

**13.2.1 Interference Response.** The combined NO and NO<sub>2</sub> interference response should be less than or equal to  $\pm 5$  percent of the up-scale CO calibration gas concentration.

**13.3 Repeatability Check.** Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

**13.3.1 Repeatability Check Procedure.** Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow [Section 10.1.3](#). Use Figure 1 to record all data. Repeat the run three times for a

total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

**13.3.2 Repeatability Check Calculations.** Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than  $\pm 3$  percent or  $\pm 1$  ppm of the up-scale gas value, whichever is less restrictive.

14.0 Pollution Prevention (Reserved)

15.0 Waste Management (Reserved)

16.0 Alternative Procedures (Reserved)

17.0 References

- (1) “Development of an Electrochemical Cell Emission Analyzer Test Protocol”, Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.
- (2) “Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers”, EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.
- (3) “ICAC Test Protocol for Periodic Monitoring”, EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.
- (4) “Code of Federal Regulations”, Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

Table 1: Appendix A - Sampling Run Data.

|                    |                          |    |                          |    |                          |    |                          |    |                        |  |
|--------------------|--------------------------|----|--------------------------|----|--------------------------|----|--------------------------|----|------------------------|--|
| Facility_____      | Engine I.D._____         |    |                          |    |                          |    |                          |    | Date_____              |  |
| Run Type:          | <input type="checkbox"/> |    | <input type="checkbox"/> |    | <input type="checkbox"/> |    | <input type="checkbox"/> |    |                        |  |
| (X)                | Pre-Sample Calibration   |    |                          |    | Stack Gas Sample         |    |                          |    | Post-Sample Cal. Check |  |
| Run #              | 1                        | 1  | 2                        | 2  | 3                        | 3  | 4                        | 4  | Time Scrub. OK         |  |
| Gas                | O <sub>2</sub>           | CO | O <sub>2</sub>           | CO | O <sub>2</sub>           | CO | O <sub>2</sub>           | CO | Flow-Rate              |  |
| Sample Cond. Phase |                          |    |                          |    |                          |    |                          |    |                        |  |
| "                  |                          |    |                          |    |                          |    |                          |    |                        |  |

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Measurement  
Data Phase

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Mean

Refresh  
Phase

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[[78 FR 6721](#), Jan. 30, 2013]

Appendix E: 40 C.F.R. Part 63, Subpart DDDDD—*National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*

## What This Subpart Covers

### **§ 63.7480 What is the purpose of this subpart?**

This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

### **§ 63.7485 Am I subject to this subpart?**

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in [§ 63.7575](#) that is located at, or is part of, a major source of HAP, except as specified in [§ 63.7491](#). For purposes of this subpart, a major source of HAP is as defined in [§ 63.2](#), except that for oil and natural gas production facilities, a major source of HAP is as defined in [§ 63.7575](#).

[[78 FR 7162](#), Jan. 31, 2013]

### **§ 63.7490 What is the affected source of this subpart?**

(a) This subpart applies to new, reconstructed, and existing affected sources as described in [paragraphs \(a\)\(1\)](#) and [\(2\)](#) of this section.

(1) The affected source of this subpart is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in [§ 63.7575](#).

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater, as defined in [§ 63.7575](#), located at a major source.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after June 4, 2010, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in [§ 63.2](#), you commence reconstruction after June 4, 2010, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.

(e) An existing electric utility steam generating unit (EGU) that meets the applicability requirements of this subpart after the effective date of this final rule due to a change (e.g., fuel switch) is considered to be an existing source under this subpart.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7162](#), Jan. 31, 2013]

## **§ 63.7491 Are any boilers or process heaters not subject to this subpart?**

The types of boilers and process heaters listed in [paragraphs \(a\)](#) through [\(n\)](#) of this section are not subject to this subpart.

- (a) An electric utility steam generating unit (EGU) covered by [subpart UUUUU of this part](#) or a natural gas-fired EGU as defined in [subpart UUUUU of this part](#) firing at least 85 percent natural gas on an annual heat input basis.
- (b) A recovery boiler or furnace covered by [subpart MM of this part](#).
- (c) A boiler or process heater that is used specifically for research and development, including test steam boilers used to provide steam for testing the propulsion systems on military vessels. This does not include units that provide heat or steam to a process at a research and development facility.
- (d) A hot water heater as defined in this subpart.
- (e) A refining kettle covered by [subpart X of this part](#).
- (f) An ethylene cracking furnace covered by [subpart YY of this part](#).
- (g) Blast furnace stoves as described in EPA-453/R-01-005 (incorporated by reference, see [§ 63.14](#)).
- (h) Any boiler or process heater that is part of the affected source subject to another subpart of this part, such as boilers and process heaters used as control devices to comply with [subparts JJJ](#), [OOO](#), [PPP](#), and [U of this part](#).
- (i) Any boiler or process heater that is used as a control device to comply with another subpart of this [part](#), or [part 60](#), [part 61](#), or [part 65 of this chapter](#) provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler or process heater is provided by regulated gas streams that are subject to another standard.
- (j) Temporary boilers and process heaters as defined in this subpart.
- (k) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.
- (l) Any boiler or process heater specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act.

(m) A unit that burns hazardous waste covered by [Subpart EEE of this part](#). A unit that is exempt from Subpart EEE as specified in [§ 63.1200\(b\)](#) is not covered by Subpart EEE.

(n) Residential boilers as defined in this subpart.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7162](#), Jan. 31, 2013; [80 FR 72806](#), Nov. 20, 2015]

## **§ 63.7495 When do I have to comply with this subpart?**

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by April 1, 2013, or upon startup of your boiler or process heater, whichever is later.

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than January 31, 2016, except as provided in [§ 63.6\(i\)](#).

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, [paragraphs \(c\)\(1\)](#) and [\(2\)](#) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing source must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing source must be in compliance with this subpart within 3 years after the source becomes a major source.

(d) You must meet the notification requirements in [§ 63.7545](#) according to the schedule in [§ 63.7545](#) and in [subpart A of this part](#). Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in [§ 63.7491\(i\)](#) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart and are no longer subject to part 60, subparts CCCC or DDDD beginning on the effective date of the switch as identified under the provisions of [§ 60.2145\(a\)\(2\)](#) and [\(3\)](#) or [§ 60.2710\(a\)\(2\)](#) and [\(3\)](#).

(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2016, you must be in compliance with the applicable existing source provisions of this subpart on the effective date such unit becomes subject to this subpart.

(g) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for a exemption in [§ 63.7491\(i\)](#) that becomes subject to this subpart after January 31, 2013, you must be in compliance with the applicable existing source provisions of this subpart within 3 years after such unit becomes subject to this subpart.

(h) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change.

(i) If you own or operate a new industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory, you must be in compliance with the applicable new source provisions of this subpart on the effective date of the fuel switch or physical change.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7162](#), Jan. 31, 2013; [80 FR 72807](#), Nov. 20, 2015]

Emission Limitations and Work Practice Standards

## **§ 63.7499 What are the subcategories of boilers and process heaters?**

The subcategories of boilers and process heaters, as defined in [§ 63.7575](#) are:

- (a) Pulverized coal/solid fossil fuel units.
- (b) Stokers designed to burn coal/solid fossil fuel.
- (c) Fluidized bed units designed to burn coal/solid fossil fuel.
- (d) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solid.
- (e) Fluidized bed units designed to burn biomass/bio-based solid.
- (f) Suspension burners designed to burn biomass/bio-based solid.
- (g) Fuel cells designed to burn biomass/bio-based solid.
- (h) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.
- (i) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solid.
- (j) Dutch ovens/pile burners designed to burn biomass/bio-based solid.
- (k) Units designed to burn liquid fuel that are non-continental units.
- (l) Units designed to burn gas 1 fuels.



- (m) Units designed to burn gas 2 (other) gases.
- (n) Metal process furnaces.
- (o) Limited-use boilers and process heaters.
- (p) Units designed to burn solid fuel.
- (q) Units designed to burn liquid fuel.
- (r) Units designed to burn coal/solid fossil fuel.
- (s) Fluidized bed units with an integrated fluidized bed heat exchanger designed to burn coal/solid fossil fuel.
- (t) Units designed to burn heavy liquid fuel.
- (u) Units designed to burn light liquid fuel.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7163](#), Jan. 31, 2013]

## **§ 63.7500 What emission limitations, work practice standards, and operating limits must I meet?**

(a) You must meet the requirements in [paragraphs \(a\)\(1\)](#) through [\(3\)](#) of this section, except as provided in [paragraphs \(b\)](#), through [\(e\)](#) of this section. You must meet these requirements at all times the affected unit is operating, except as provided in [paragraph \(f\)](#) of this section.

(1) You must meet each emission limit and work practice standard in Tables 1 through 3, and 11 through 13 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under [§ 63.7522](#). The output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers and process heaters that generate either steam, cogenerate steam with electricity, or both. The output-based emission limits, in units of pounds per megawatt-hour, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers that generate only electricity. Boilers that perform multiple functions (cogeneration and electricity generation) or supply steam to common headers would calculate a total steam energy output using equation 21 of [§ 63.7575](#) to demonstrate compliance with the output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart. If you operate a new boiler or process heater, you can choose to comply with alternative limits as discussed in [paragraphs \(a\)\(1\)\(i\)](#) through [\(iii\)](#) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

(i) If your boiler or process heater commenced construction or reconstruction after June 4, 2010 and before May 20, 2011, you may comply with the emission limits in Table 1 or 11 to this subpart until January 31, 2016.

(ii) If your boiler or process heater commenced construction or reconstruction on or after May 20, 2011 and before December 23, 2011, you may comply with the emission limits in Table 1 or 12 to this subpart until January 31, 2016.

(iii) If your boiler or process heater commenced construction or reconstruction on or after December 23, 2011 and before April 1, 2013, you may comply with the emission limits in Table 1 or 13 to this subpart until January 31, 2016.

(2) You must meet each operating limit in Table 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Table 4 to this subpart, or you wish to establish and monitor an alternative operating limit or an alternative monitoring parameter, you must apply to the EPA Administrator for approval of alternative monitoring under [§ 63.8\(f\)](#).

(3) At all times, you must operate and maintain any affected source (as defined in [§ 63.7490](#)), 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 that 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) As provided in [§ 63.6\(g\)](#), EPA may approve use of an alternative to the work practice standards in this section.

(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in [§ 63.7540](#). They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart.

(d) Boilers and process heaters with a heat input capacity of less than or equal to 5 million Btu per hour in the units designed to burn gas 2 (other) fuels subcategory or units designed to burn light liquid fuels subcategory must complete a tune-up every 5 years as specified in [§ 63.7540](#).

(e) Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity of less than or equal to 5 million Btu per hour must complete a tune-up every 5 years as specified in [§ 63.7540](#). Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity greater than 5 million Btu per hour and less than 10 million Btu per hour must complete a tune-up every 2 years as specified in [§ 63.7540](#). Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, or the operating limits in Table 4 to this subpart.

(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with items 5 and 6 of Table 3 to this subpart.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7163](#), Jan. 31, 2013; [80 FR 72807](#), Nov. 20, 2015]

## **§ 63.7501 [Reserved]**

### General Compliance Requirements

## **§ 63.7505 What are my general requirements for complying with this subpart?**

(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These emission and operating limits apply to you at all times the affected unit is operating except for the periods noted in [§ 63.7500\(f\)](#).

(b) [Reserved]

(c) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to [§ 63.7530\(c\)](#) is less than the applicable emission limit. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, you must demonstrate compliance for HCl, mercury, or TSM using performance stack testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.

(d) If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, you must develop a site-specific monitoring plan according to the requirements in [paragraphs \(d\)\(1\) through \(4\)](#) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under [§ 63.8\(f\)](#).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses design, data collection, and the quality assurance and quality control elements outlined in [§ 63.8\(d\)](#) and the elements described in [paragraphs \(d\)\(1\)\(i\) through \(iii\)](#) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with

existing CEMS or COMS operated according to the performance specifications under appendix B to [part 60 of this chapter](#) and that meet the requirements of [§ 63.7525](#). Using the process described in [§ 63.8\(f\)\(4\)](#), you may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in this paragraph and, if approved, include the alternatives in your site-specific monitoring plan.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations, accuracy audits, analytical drift).

(2) In your site-specific monitoring plan, you must also address [paragraphs \(d\)\(2\)\(i\) through \(iii\)](#) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of [§ 63.8\(c\)\(1\)\(ii\)](#), [\(c\)\(3\)](#), and [\(c\)\(4\)\(ii\)](#);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of [§ 63.8\(d\)](#); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of [§ 63.10\(c\)](#) (as applicable in Table 10 to this subpart), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(e) If you have an applicable emission limit, and you choose to comply using definition (2) of “startup” in [§ 63.7575](#), you must develop and implement a written startup and shutdown plan (SSP) according to the requirements in Table 3 to this subpart. The SSP must be maintained onsite and available upon request for public inspection.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7164](#), Jan. 31, 2013; [80 FR 72807](#), Nov. 20, 2015]

Testing, Fuel Analyses, and Initial Compliance Requirements

## **§ 63.7510 What are my initial compliance requirements and by what date must I conduct them?**

(a) For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 or 11 through 13 of this subpart through performance (stack) testing, your initial compliance requirements include all the following:

(1) Conduct performance tests according to [§ 63.7520](#) and Table 5 to this subpart.

(2) Conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to [§ 63.7521](#) and Table 6 to this subpart, except as specified in [paragraphs \(a\)\(2\)\(i\)](#) through [\(iii\)](#) of this section.

(i) For each boiler or process heater that burns a single type of fuel, you are not required to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to [§ 63.7521](#) and Table 6 to this subpart. For purposes of this subpart, units that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as units that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under [§ 63.7521](#) and Table 6 to this subpart.

(ii) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels, you are not required to conduct a fuel analysis of those Gas 1 fuels according to [§ 63.7521](#) and Table 6 to this subpart. If gaseous fuels other than natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels and those non-Gas 1 gaseous fuels are subject to another subpart of this part, part 60, part 61, or part 65, you are not required to conduct a fuel analysis of those non-Gas 1 fuels according to [§ 63.7521](#) and Table 6 to this subpart.

(iii) You are not required to conduct a chlorine fuel analysis for any gaseous fuels. You must conduct a fuel analysis for mercury on gaseous fuels unless the fuel is exempted in [paragraphs \(a\)\(2\)\(i\)](#) and [\(ii\)](#) of this section.

(3) Establish operating limits according to [§ 63.7530](#) and Table 7 to this subpart.

(4) Conduct CMS performance evaluations according to [§ 63.7525](#).

(b) For each boiler or process heater that you elect to demonstrate compliance with the applicable emission limits in Tables 1 or 2 or 11 through 13 to this subpart for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to [§ 63.7521](#) and Table 6 to this subpart and establish operating limits according to [§ 63.7530](#) and Table 8 to this subpart. The fuels described in [paragraph \(a\)\(2\)\(i\)](#) and [\(ii\)](#) of this section are exempt from these fuel analysis and operating limit requirements. The fuels described in [paragraph \(a\)\(2\)\(ii\)](#) of this section are exempt from the chloride fuel analysis and operating limit requirements. Boilers and process heaters that use a CEMS for mercury or HCl are exempt from the

performance testing and operating limit requirements specified in [paragraph \(a\)](#) of this section for the HAP for which CEMS are used.

(c) If your boiler or process heater is subject to a carbon monoxide (CO) limit, your initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to [§ 63.7525\(a\)](#). Boilers and process heaters that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, as specified in [§ 63.7525\(a\)](#), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in [paragraph \(a\)](#) of this section.

(d) If your boiler or process heater is subject to a PM limit, your initial compliance demonstration for PM is to conduct a performance test in accordance with [§ 63.7520](#) and Table 5 to this subpart.

(e) For existing affected sources (as defined in [§ 63.7490](#)), you must complete the initial compliance demonstrations, as specified in [paragraphs \(a\)](#) through [\(d\)](#) of this section, no later than 180 days after the compliance date that is specified for your source in [§ 63.7495](#) and according to the applicable provisions in [§ 63.7\(a\)\(2\)](#) as cited in Table 10 to this subpart, except as specified in [paragraph \(j\)](#) of this section. You must complete an initial tune-up by following the procedures described in [§ 63.7540\(a\)\(10\)\(i\)](#) through [\(vi\)](#) no later than the compliance date specified in [§ 63.7495](#), except as specified in [paragraph \(j\)](#) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in [§ 63.7495](#).

(f) For new or reconstructed affected sources (as defined in [§ 63.7490](#)), you must complete the initial compliance demonstration with the emission limits no later than July 30, 2013 or within 180 days after startup of the source, whichever is later. If you are demonstrating compliance with an emission limit in Tables 11 through 13 to this subpart that is less stringent (that is, higher) than the applicable emission limit in Table 1 to this subpart, you must demonstrate compliance with the applicable emission limit in Table 1 no later than July 29, 2016.

(g) For new or reconstructed affected sources (as defined in [§ 63.7490](#)), you must demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the applicable annual, biennial, or 5-year schedule as specified in [§ 63.7515\(d\)](#) following the initial compliance date specified in [§ 63.7495\(a\)](#). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in [§ 63.7515\(d\)](#).

(h) For affected sources (as defined in [§ 63.7490](#)) that ceased burning solid waste consistent with [§ 63.7495\(e\)](#) and for which the initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

(i) For an existing EGU that becomes subject after January 31, 2016, you must demonstrate compliance within 180 days after becoming an affected source.

(j) For existing affected sources (as defined in [§ 63.7490](#)) that have not operated between the effective date of the rule and the compliance date that is specified for your source in [§ 63.7495](#), you must complete the initial compliance demonstration, if subject to the emission limits in Table 2 to this subpart, as specified in [paragraphs \(a\) through \(d\)](#) of this section, no later than 180 days after the re-start of the affected source and according to the applicable provisions in [§ 63.7\(a\)\(2\)](#) as cited in Table 10 to this subpart. You must complete an initial tune-up by following the procedures described in [§ 63.7540\(a\)\(10\)\(i\)](#) through [\(vi\)](#) no later than 30 days after the re-start of the affected source and, if applicable, complete the one-time energy assessment specified in Table 3 to this subpart, no later than the compliance date specified in [§ 63.7495](#).

(k) For affected sources, as defined in [§ 63.7490](#), that switch subcategories consistent with [§ 63.7545\(h\)](#) after the initial compliance date, you must demonstrate compliance within 60 days of the effective date of the switch, unless you had previously conducted your compliance demonstration for this subcategory within the previous 12 months.

[[78 FR 7164](#), Jan. 31, 2013, as amended at [80 FR 72808](#), Nov. 20, 2015]

## **§ 63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?**

(a) You must conduct all applicable performance tests according to [§ 63.7520](#) on an annual basis, except as specified in [paragraphs \(b\) through \(e\), \(g\), and \(h\)](#) of this section. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in [paragraphs \(b\) through \(e\), \(g\), and \(h\)](#) of this section.

(b) If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 13 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or process heater or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under [§ 63.7522](#), you must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM.

(c) If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through 13 to this subpart) for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over a



consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through 13 to this subpart).

(d) If you are required to meet an applicable tune-up work practice standard, you must conduct an annual, biennial, or 5-year performance tune-up according to [§ 63.7540\(a\)\(10\)](#), [\(11\)](#), or [\(12\)](#), respectively. Each annual tune-up specified in [§ 63.7540\(a\)\(10\)](#) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in [§ 63.7540\(a\)\(11\)](#) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in [§ 63.7540\(a\)\(12\)](#) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in [§ 63.7490](#)), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later.

(e) If you demonstrate compliance with the mercury, HCl, or TSM based on fuel analysis, you must conduct a monthly fuel analysis according to [§ 63.7521](#) for each type of fuel burned that is subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart. You may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in [§ 63.7540](#). If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, you may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or you begin burning a new type of fuel, you must return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. If sampling is conducted on one day per month, samples should be no less than 14 days apart, but if multiple samples are taken per month, the 14-day restriction does not apply.

(f) You must report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to [§ 63.7530](#) and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests must include all applicable information required in [§ 63.7550](#).

(g) For affected sources (as defined in [§ 63.7490](#)) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, you must complete the subsequent compliance demonstration, if subject to the emission limits in Tables 1, 2, or 11 through 13 to this subpart, no later than 180 days after the re-start of the affected source and according to the applicable provisions in [§ 63.7\(a\)\(2\)](#) as cited in Table 10 to this subpart. You must complete a subsequent tune-up by following the procedures described in [§ 63.7540\(a\)\(10\)\(i\)](#) through [\(vi\)](#) and the schedule described in [§ 63.7540\(a\)\(13\)](#) for units that are not operating at the time of their scheduled tune-up.



(h) If your affected boiler or process heater is in the unit designed to burn light liquid subcategory and you combust ultra-low sulfur liquid fuel, you do not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Tables 1 or 2 of this subpart providing you demonstrate ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. If you intend to use a fuel other than ultra-low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, you must conduct new performance tests within 60 days of burning the new fuel type.

(i) If you operate a CO CEMS that meets the Performance Specifications outlined in [§ 63.7525\(a\)\(3\) of this subpart](#) to demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you are not required to conduct CO performance tests and are not subject to the oxygen concentration operating limit requirement specified in [§ 63.7510\(a\)](#).

[[78 FR 7165](#), Jan. 31, 2013, as amended at [80 FR 72808](#), Nov. 20, 2015]

## **§ 63.7520 What stack tests and procedures must I use?**

(a) You must conduct all performance tests according to [§ 63.7\(c\)](#), [\(d\)](#), [\(f\)](#), and [\(h\)](#). You must also develop a site-specific stack test plan according to the requirements in [§ 63.7\(c\)](#). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on the representative performance of each boiler or process heater for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if you are opting to comply with the TSM alternative standard and you must demonstrate initial compliance and establish your operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance test required in this section, as specified in [§ 63.7\(e\)\(3\)](#). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1 and 2 or 11 through 13 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at [40 CFR part 60, appendix A-7](#) of

this chapter to convert the measured particulate matter (PM) concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates.

(f) Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7166](#), Jan. 31, 2013]

## **§ 63.7521 What fuel analyses, fuel specification, and procedures must I use?**

(a) For solid and liquid fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in [paragraphs \(b\)](#) through [\(e\)](#) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, you must also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. For gas 2 (other) fuels, you must conduct fuel analyses for mercury according to the procedures in [paragraphs \(b\)](#) through [\(e\)](#) of this section and Table 6 to this subpart, as applicable. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) For purposes of complying with this section, a fuel gas system that consists of multiple gaseous fuels collected and mixed with each other is considered a single fuel type and sampling and analysis is only required on the combined fuel gas system that will feed the boiler or process heater. Sampling and analysis of the individual gaseous streams prior to combining is not required. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in [paragraphs \(c\)](#) and [\(d\)](#) of this section.

(b) You must develop a site-specific fuel monitoring plan according to the following procedures and requirements in [paragraphs \(b\)\(1\)](#) and [\(2\)](#) of this section, if you are required to conduct fuel analyses as specified in [§ 63.7510](#).

(1) If you intend to use an alternative analytical method other than those required by Table 6 to this subpart, you must submit the fuel analysis plan to the Administrator for review and approval no later than 60 days before the date that you intend to conduct the initial compliance demonstration described in [§ 63.7510](#).

(2) You must include the information contained in [paragraphs \(b\)\(2\)\(i\) through \(vi\)](#) of this section in your fuel analysis plan.

(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each anticipated fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each anticipated fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from [paragraph \(c\)](#) or [\(d\)](#) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each anticipated fuel type, the analytical methods from Table 6, with the expected minimum detection levels, to be used for the measurement of chlorine or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) You must obtain composite fuel samples for each fuel type according to the procedures in [paragraph \(c\)\(1\)](#) or [\(2\)](#) of this section, or the methods listed in Table 6 to this subpart, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material. At a minimum, for demonstrating initial compliance by fuel analysis, you must obtain three composite samples. For monthly fuel analyses, at a minimum, you must obtain a single composite sample. For fuel analyses as part of a performance stack test, as specified in [§ 63.7510\(a\)](#), you must obtain a composite fuel sample during each performance test run.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to [paragraphs \(c\)\(1\)\(i\) and \(ii\)](#) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. You must collect all the material (fines and coarse) in the full cross-section. You must transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal one-hour intervals during the testing period for sampling during performance stack testing.

(2) If sampling from a fuel pile or truck, you must collect fuel samples according to [paragraphs \(c\)\(2\)\(i\) through \(iii\)](#) of this section.

(i) For each composite sample, you must select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, you must dig into the pile to a uniform depth of approximately 18 inches. You must insert a clean shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling; use the same shovel to collect all samples.

(iii) You must transfer all samples to a clean plastic bag for further processing.

(d) You must prepare each composite sample according to the procedures in [paragraphs \(d\)\(1\) through \(7\)](#) of this section.

(1) You must thoroughly mix and pour the entire composite sample over a clean plastic sheet.

(2) You must break large sample pieces (e.g., larger than 3 inches) into smaller sizes.

(3) You must make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) You must separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, you must repeat the procedure in [paragraph \(d\)\(3\)](#) of this section with the quarter sample and obtain a one-quarter subset from this sample.

(6) You must grind the sample in a mill.

(7) You must use the procedure in [paragraph \(d\)\(3\)](#) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) You must determine the concentration of pollutants in the fuel (mercury and/or chlorine and/or TSM) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart, for use in Equations 7, 8, and 9 of this subpart.

(f) To demonstrate that a gaseous fuel other than natural gas or refinery gas qualifies as an other gas 1 fuel, as defined in [§ 63.7575](#), you must conduct a fuel specification analyses for mercury according to the procedures in [paragraphs \(g\) through \(i\)](#) of this section and Table 6 to

this subpart, as applicable, except as specified in [paragraph \(f\)\(1\)](#) through [\(4\)](#) of this section, or as an alternative where fuel specification analysis is not practical, you must measure mercury concentration in the exhaust gas when firing only the gaseous fuel to be demonstrated as an other gas 1 fuel in the boiler or process heater according to the procedures in Table 6 to this subpart.

(1) You are not required to conduct the fuel specification analyses in [paragraphs \(g\)](#) through [\(i\)](#) of this section for natural gas or refinery gas.

(2) You are not required to conduct the fuel specification analyses in [paragraphs \(g\)](#) through [\(i\)](#) of this section for gaseous fuels that are subject to another subpart of this part, part 60, part 61, or part 65.

(3) You are not required to conduct the fuel specification analyses in [paragraphs \(g\)](#) through [\(i\)](#) of this section on gaseous fuels for units that are complying with the limits for units designed to burn gas 2 (other) fuels.

(4) You are not required to conduct the fuel specification analyses in [paragraphs \(g\)](#) through [\(i\)](#) of this section for gas streams directly derived from natural gas at natural gas production sites or natural gas plants.

(g) You must develop a site-specific fuel analysis plan for other gas 1 fuels according to the following procedures and requirements in [paragraphs \(g\)\(1\)](#) and [\(2\)](#) of this section.

(1) If you intend to use an alternative analytical method other than those required by Table 6 to this subpart, you must submit the fuel analysis plan to the Administrator for review and approval no later than 60 days before the date that you intend to conduct the initial compliance demonstration described in [§ 63.7510](#).

(2) You must include the information contained in [paragraphs \(g\)\(2\)\(i\)](#) through [\(vi\)](#) of this section in your fuel analysis plan.

(i) The identification of all gaseous fuel types other than those exempted from fuel specification analysis under [\(f\)\(1\)](#) through [\(3\)](#) of this section anticipated to be burned in each boiler or process heater.

(ii) For each anticipated fuel type, the identification of whether you or a fuel supplier will be conducting the fuel specification analysis.

(iii) For each anticipated fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the samples if your procedures are different from the sampling methods contained in Table 6 to this subpart. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types. If multiple boilers or process heaters are fueled by a common fuel stream it is permissible to conduct a single gas specification at the common point of gas distribution.

(iv) For each anticipated fuel type, the analytical methods from Table 6 to this subpart, with the expected minimum detection levels, to be used for the measurement of mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 to this subpart shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart. When using a fuel supplier's fuel analysis, the owner or operator is not required to submit the information in [§ 63.7521\(g\)\(2\)\(iii\)](#).

(h) You must obtain a single fuel sample for each fuel type for fuel specification of gaseous fuels.

(i) You must determine the concentration in the fuel of mercury, in units of microgram per cubic meter, dry basis, of each sample for each other gas 1 fuel type according to the procedures in Table 6 to this subpart.

[[78 FR 7167](#), Jan. 31, 2013, as amended at [80 FR 72808](#), Nov. 20, 2015]

## **§ 63.7522 Can I use emissions averaging to comply with this subpart?**

(a) As an alternative to meeting the requirements of [§ 63.7500](#) for PM (or TSM), HCl, or mercury on a boiler or process heater-specific basis, if you have more than one existing boiler or process heater in any subcategories located at your facility, you may demonstrate compliance by emissions averaging, if your averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in this section. You may not include new boilers or process heaters in an emissions average.

(b) For a group of two or more existing boilers or process heaters in the same subcategory that each vent to a separate stack, you may average PM (or TSM), HCl, or mercury emissions among existing units to demonstrate compliance with the limits in Table 2 to this subpart as specified in [paragraph \(b\)\(1\)](#) through [\(3\)](#) of this section, if you satisfy the requirements in [paragraphs \(c\)](#) through [\(g\)](#) of this section.

(1) You may average units using a CEMS or PM CPMS for demonstrating compliance.

(2) For mercury and HCl, averaging is allowed as follows:

(i) You may average among units in any of the solid fuel subcategories.

(ii) You may average among units in any of the liquid fuel subcategories.

(iii) You may average among units in a subcategory of units designed to burn gas 2 (other) fuels.

(iv) You may not average across the units designed to burn liquid, units designed to burn solid fuel, and units designed to burn gas 2 (other) subcategories.

(3) For PM (or TSM), averaging is only allowed between units within each of the following subcategories and you may not average across subcategories:

(i) Units designed to burn coal/solid fossil fuel.

(ii) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solids.

(iii) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solids.

(iv) Fluidized bed units designed to burn biomass/bio-based solid.

(v) Suspension burners designed to burn biomass/bio-based solid.

(vi) Dutch ovens/pile burners designed to burn biomass/bio-based solid.

(vii) Fuel Cells designed to burn biomass/bio-based solid.

(viii) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.

(ix) Units designed to burn heavy liquid fuel.

(x) Units designed to burn light liquid fuel.

(xi) Units designed to burn liquid fuel that are non-continental units.

(xii) Units designed to burn gas 2 (other) gases.

(c) For each existing boiler or process heater in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on April 1, 2013 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on April 1, 2013.

(d) The averaged emissions rate from the existing boilers and process heaters participating in the emissions averaging option must not exceed 90 percent of the limits in Table 2 to this subpart at all times the affected units are subject to numeric emission limits following the compliance date specified in [§ 63.7495](#).



(e) You must demonstrate initial compliance according to [paragraph \(e\)\(1\)](#) or [\(2\)](#) of this section using the maximum rated heat input capacity or maximum steam generation capacity of each unit and the results of the initial performance tests or fuel analysis.

(1) You must use Equation 1a or 1b or 1c of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option for that pollutant do not exceed the emission limits in Table 2 to this subpart. Use Equation 1a if you are complying with the emission limits on a heat input basis, use Equation 1b if you are complying with the emission limits on a steam generation (output) basis, and use Equation 1c if you are complying with the emission limits on a electric generation (output) basis.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times Hm) \div \sum_{i=1}^n Hm \quad (Eq. 1a)$$

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in [§ 63.7530\(c\)](#).

Hm = Maximum rated heat input capacity of unit, i, in units of million Btu per hour.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times So) \div \sum_{i=1}^n So \quad (Eq. 1b)$$

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output.

Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in [§ 63.7530\(c\)](#).



this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in [§ 63.7530\(c\)](#). If you are taking credit for energy conservation measures from a unit according to [§ 63.7533](#), use the adjusted emission level for that unit, Eadj, determined according to [§ 63.7533](#) for that unit.

So = Maximum steam output capacity of unit, i, in units of million Btu per hour, as defined in [§ 63.7575](#).

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times Eo) \div \sum_{i=1}^n Eo \quad (Eq)$$

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour.

Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in [§ 63.7530\(c\)](#). If you are taking credit for energy conservation measures from a unit according to [§ 63.7533](#), use the adjusted emission level for that unit, Eadj, determined according to [§ 63.7533](#) for that unit.

Eo = Maximum electric generating output capacity of unit, i, in units of megawatt hour, as defined in [§ 63.7575](#).

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

(2) If you are not capable of determining the maximum rated heat input capacity of one or more boilers that generate steam, you may use Equation 2 of this section as an alternative to using Equation 1a of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option do not exceed the emission limits for that pollutant in Table 2 to this subpart that are in pounds per million Btu of heat input.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times Sm \times Cfi) \div \sum_{i=1}^n (Sm \times Cfi) \quad (Eq)$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in [§ 63.7530\(c\)](#).

Sm = Maximum steam generation capacity by unit, i, in units of pounds per hour.

Cfi = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for unit, i.

1.1 = Required discount factor.

(f) After the initial compliance demonstration described in [paragraph \(e\)](#) of this section, you must demonstrate compliance on a monthly basis determined at the end of every month (12 times per year) according to [paragraphs \(f\)\(1\)](#) through [\(3\)](#) of this section. The first monthly period begins on the compliance date specified in [§ 63.7495](#). If the affected source elects to collect monthly data for up the 11 months preceding the first monthly period, these additional data points can be used to compute the 12-month rolling average in [paragraph \(f\)\(3\)](#) of this section.

(1) For each calendar month, you must use Equation 3a or 3b or 3c of this section to calculate the average weighted emission rate for that month. Use Equation 3a and the actual heat input for the month for each existing unit participating in the emissions averaging option if you are complying with emission limits on a heat input basis. Use Equation 3b and the actual steam generation for the month if you are complying with the emission limits on a steam generation (output) basis. Use Equation 3c and the actual electrical generation for the month if you are complying with the emission limits on an electrical generation (output) basis.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times Hb) \div \sum_{i=1}^n Hb \quad (Eq. \quad )$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5

to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.

Hb = The heat input for that calendar month to unit, i, in units of million Btu.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times So) \div \sum_{i=1}^n So \quad (\text{Eq. 3b})$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to [§ 63.7533](#), use the adjusted emission level for that unit, E<sub>adj</sub>, determined according to [§ 63.7533](#) for that unit.

So = The steam output for that calendar month from unit, i, in units of million Btu, as defined in [§ 63.7575](#).

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times Eo) \div \sum_{i=1}^n Eo \quad (\text{Eq. 3c})$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to

this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to [§ 63.7533](#), use the adjusted emission level for that unit,  $E_{adj}$ , determined according to [§ 63.7533](#) for that unit.

$E_o$  = The electric generating output for that calendar month from unit,  $i$ , in units of megawatt hour, as defined in [§ 63.7575](#).

$n$  = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

(2) If you are not capable of monitoring heat input, you may use Equation 4 of this section as an alternative to using Equation 3a of this section to calculate the average weighted emission rate using the actual steam generation from the boilers participating in the emissions averaging option.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^n (Er \times Sa \times Cfi) \div \sum_{i=1}^n (Sa \times Cfi)$$

Where:

$AveWeightedEmissions$  = average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input for that calendar month.

$Er$  = Emission rate (as determined during the most recent compliance demonstration of PM (or TSM), HCl, or mercury from unit,  $i$ , in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.

$Sa$  = Actual steam generation for that calendar month by boiler,  $i$ , in units of pounds.

$Cfi$  = Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for boiler,  $i$ .

1.1 = Required discount factor.

(3) Until 12 monthly weighted average emission rates have been accumulated, calculate and report only the average weighted emission rate determined under [paragraph \(f\)\(1\)](#) or [\(2\)](#) of this section for each calendar month. After 12 monthly weighted average emission rates have been accumulated, for each subsequent calendar month, use Equation 5 of this section to calculate the 12-month rolling average of the monthly weighted average emission rates for the current calendar month and the previous 11 calendar months.

$$E_{avg} = \sum_{i=1}^n E_{Ri} \div 12 \quad (\text{Eq. } 5)$$

Where:

$E_{avg}$  = 12-month rolling average emission rate, (pounds per million Btu heat input)

$E_{Ri}$  = Monthly weighted average, for calendar month “i” (pounds per million Btu heat input), as calculated by [paragraph \(f\)\(1\)](#) or [\(2\)](#) of this section.

(g) You must develop, and submit upon request to the applicable Administrator for review and approval, an implementation plan for emission averaging according to the following procedures and requirements in [paragraphs \(g\)\(1\)](#) through [\(4\)](#) of this section.

(1) If requested, you must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

(2) You must include the information contained in [paragraphs \(g\)\(2\)\(i\)](#) through [\(vii\)](#) of this section in your implementation plan for all emission sources included in an emissions average:

(i) The identification of all existing boilers and process heaters in the averaging group, including for each either the applicable HAP emission level or the control technology installed as of January 31, 2013 and the date on which you are requesting emission averaging to commence;

(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group;

(iii) The specific control technology or pollution prevention measure to be used for each emission boiler or process heater in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple boilers or process heaters, the owner or operator must identify each boiler or process heater;

(iv) The test plan for the measurement of PM (or TSM), HCl, or mercury emissions in accordance with the requirements in [§ 63.7520](#);

(v) The operating parameters to be monitored for each control system or device consistent with [§ 63.7500](#) and Table 4, and a description of how the operating limits will be determined;

(vi) If you request to monitor an alternative operating parameter pursuant to [§ 63.7525](#), you must also include:

(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and

(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the Administrator, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and

(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating load conditions. Following each compliance demonstration and until the next compliance demonstration, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.

(3) If submitted upon request, the Administrator shall review and approve or disapprove the plan according to the following criteria:

(i) Whether the content of the plan includes all of the information specified in [paragraph \(g\)\(2\)](#) of this section; and

(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.

(4) The applicable Administrator shall not approve an emission averaging implementation plan containing any of the following provisions:

(i) Any averaging between emissions of differing pollutants or between differing sources; or

(ii) The inclusion of any emission source other than an existing unit in the same subcategories.

(h) For a group of two or more existing affected units, each of which vents through a single common stack, you may average PM (or TSM), HCl, or mercury emissions to demonstrate compliance with the limits for that pollutant in Table 2 to this subpart if you satisfy the requirements in [paragraph \(i\)](#) or [\(j\)](#) of this section.

(i) For a group of two or more existing units in the same subcategory, each of which vents through a common emissions control system to a common stack, that does not receive emissions from units in other subcategories or categories, you may treat such averaging group as a single existing unit for purposes of this subpart and comply with the requirements of this subpart as if the group were a single unit.

(j) For all other groups of units subject to the common stack requirements of [paragraph \(h\)](#) of this section, including situations where the exhaust of affected units are each individually controlled and then sent to a common stack, the owner or operator may elect to:

(1) Conduct performance tests according to procedures specified in [§ 63.7520](#) in the common stack if affected units from other subcategories vent to the common stack. The emission limits that the group must comply with are determined by the use of Equation 6 of this section.

$$En = \sum_{i=1}^n (ELi \times Hi) \div \sum_{i=1}^n Hi \quad (\text{Eq. 6})$$

Where:

En = HAP emission limit, pounds per million British thermal units (lb/MMBtu) or parts per million (ppm).

Eli = Appropriate emission limit from Table 2 to this subpart for unit i, in units of lb/MMBtu or ppm.

Hi = Heat input from unit i, MMBtu.

(2) Conduct performance tests according to procedures specified in [§ 63.7520](#) in the common stack. If affected units and non-affected units vent to the common stack, the non-affected units must be shut down or vented to a different stack during the performance test unless the facility determines to demonstrate compliance with the non-affected units venting to the stack; and

(3) Meet the applicable operating limit specified in [§ 63.7540](#) and Table 8 to this subpart for each emissions control system (except that, if each unit venting to the common stack has an applicable opacity operating limit, then a single continuous opacity monitoring system may be located in the common stack instead of in each duct to the common stack).

(k) The common stack of a group of two or more existing boilers or process heaters in the same subcategories subject to [paragraph \(h\)](#) of this section may be treated as a separate stack for purposes of [paragraph \(b\)](#) of this section and included in an emissions averaging group subject to [paragraph \(b\)](#) of this section.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7168](#), Jan. 31, 2013; [80 FR 72809](#), Nov. 20, 2015]

## **§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?**

(a) If your boiler or process heater is subject to a CO emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must install, operate, and maintain an oxygen analyzer system, as defined in [§ 63.7575](#), or install, certify, operate and maintain continuous emission



monitoring systems for CO and oxygen (or carbon dioxide (CO<sub>2</sub>)) according to the procedures in [paragraphs \(a\)\(1\)](#) through [\(6\)](#) of this section.

(1) Install the CO CEMS and oxygen (or CO<sub>2</sub>) analyzer by the compliance date specified in [§ 63.7495](#). The CO and oxygen (or CO<sub>2</sub>) levels shall be monitored at the same location at the outlet of the boiler or process heater. An owner or operator may request an alternative test method under [§ 63.7 of this chapter](#), in order that compliance with the CO emissions limit be determined using CO<sub>2</sub> as a diluent correction in place of oxygen at 3 percent. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO<sub>2</sub> correction percentage for the fuel type burned in the unit, and must also take into account that the 3 percent oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO<sub>2</sub> being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

(2) To demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you must install, certify, operate, and maintain a CO CEMS and an oxygen analyzer according to the applicable procedures under Performance Specification 4, 4A, or 4B at [40 CFR part 60, appendix B; part 75 of this chapter](#) (if an CO<sub>2</sub> analyzer is used); the site-specific monitoring plan developed according to [§ 63.7505\(d\)](#); and the requirements in [§ 63.7540\(a\)\(8\)](#) and [paragraph \(a\)](#) of this section. Any boiler or process heater that has a CO CEMS that is compliant with Performance Specification 4, 4A, or 4B at [40 CFR part 60, appendix B](#), a site-specific monitoring plan developed according to [§ 63.7505\(d\)](#), and the requirements in [§ 63.7540\(a\)\(8\)](#) and [paragraph \(a\)](#) of this section must use the CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart.

(i) You must conduct a performance evaluation of each CO CEMS according to the requirements in [§ 63.8\(e\)](#) and according to Performance Specification 4, 4A, or 4B at [40 CFR part 60, appendix B](#).

(ii) During each relative accuracy test run of the CO CEMS, you must be collect emission data for CO concurrently (or within a 30- to 60-minute period) by both the CO CEMS and by Method 10, 10A, or 10B at [40 CFR part 60, appendix A-4](#). The relative accuracy testing must be at representative operating conditions.

(iii) You must follow the quality assurance procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) of Procedure 1 of appendix F to part 60. The measurement span value of the CO CEMS must be two times the applicable CO emission limit, expressed as a concentration.

(iv) Any CO CEMS that does not comply with [§ 63.7525\(a\)](#) cannot be used to meet any requirement in this subpart to demonstrate compliance with a CO emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.



(v) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.

(vi) When CO<sub>2</sub> is used to correct CO emissions and CO<sub>2</sub> is measured on a wet basis, correct for moisture as follows: Install, operate, maintain, and quality assure a continuous moisture monitoring system for measuring and recording the moisture content of the flue gases, in order to correct the measured hourly volumetric flow rates for moisture when calculating CO concentrations. The following continuous moisture monitoring systems are acceptable: A continuous moisture sensor; an oxygen analyzer (or analyzers) capable of measuring O<sub>2</sub> both on a wet basis and on a dry basis; or a stack temperature sensor and a moisture look-up table, *i.e.*, a psychrometric chart (for saturated gas streams following wet scrubbers or other demonstrably saturated gas streams, only). The moisture monitoring system shall include as a component the automated data acquisition and handling system (DAHS) for recording and reporting both the raw data (*e.g.*, hourly average wet-and dry basis O<sub>2</sub> values) and the hourly average values of the stack gas moisture content derived from those data. When a moisture look-up table is used, the moisture monitoring system shall be represented as a single component, the certified DAHS, in the monitoring plan for the unit or common stack.

(3) Complete a minimum of one cycle of CO and oxygen (or CO<sub>2</sub>) CEMS operation (sampling, analyzing, and data recording) for each successive 15-minute period. Collect CO and oxygen (or CO<sub>2</sub>) data concurrently. Collect at least four CO and oxygen (or CO<sub>2</sub>) CEMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed.

(4) Reduce the CO CEMS data as specified in [§ 63.8\(g\)\(2\)](#).

(5) Calculate one-hour arithmetic averages, corrected to 3 percent oxygen (or corrected to an CO<sub>2</sub> percentage determined to be equivalent to 3 percent oxygen) from each hour of CO CEMS data in parts per million CO concentration. The one-hour arithmetic averages required shall be used to calculate the 30-day or 10-day rolling average emissions. Use Equation 19-19 in [section 12.4.1](#) of Method 19 of [40 CFR part 60, appendix A-7](#) for calculating the average CO concentration from the hourly values.

(6) For purposes of collecting CO data, operate the CO CEMS as specified in [§ 63.7535\(b\)](#). You must use all the data collected during all periods in calculating data averages and assessing compliance, except that you must exclude certain data as specified in [§ 63.7535\(c\)](#). Periods when CO data are unavailable may constitute monitoring deviations as specified in [§ 63.7535\(d\)](#).

(7) Operate an oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen according to Table 7 to this subpart.

(b) If your boiler or process heater is in the unit designed to burn coal/solid fossil fuel subcategory or the unit designed to burn heavy liquid subcategory and has an average annual heat input rate greater than 250 MMBtu per hour from solid fossil fuel and/or heavy liquid, and you demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, maintain, and operate a PM CPMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in [paragraphs \(b\)\(1\) through \(4\)](#) of this section. As an alternative to use of a PM CPMS to demonstrate compliance with the PM limit, you may choose to use a PM CEMS. If you choose to use a PM CEMS to demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, certify, maintain, and operate a PM CEMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in [paragraph \(b\)\(5\)](#) through [\(8\)](#) of this section. For other boilers or process heaters, you may elect to use a PM CPMS or PM CEMS operated in accordance with this section in lieu of using other CMS for monitoring PM compliance (*e.g.*, bag leak detectors, ESP secondary power, and PM scrubber pressure). Owners of boilers and process heaters who elect to comply with the alternative TSM limit are not required to install a PM CPMS.

(1) Install, operate, and maintain your PM CPMS according to the procedures in your approved site-specific monitoring plan developed in accordance with [§ 63.7505\(d\)](#), the requirements in [§ 63.7540\(a\)\(9\)](#), and [paragraphs \(b\)\(1\)\(i\) through \(iii\)](#) of this section.

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of PM in the exhaust gas or representative exhaust gas sample. The reportable measurement output from the PM CPMS must be expressed as milliamps.

(ii) The PM CPMS must have a cycle time (*i.e.*, period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes.

(iii) The PM CPMS must have a documented detection limit of 0.5 milligram per actual cubic meter, or less.

(2) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.

(3) Collect PM CPMS hourly average output data for all boiler or process heater operating hours except as indicated in [§ 63.7535\(a\)](#) through [\(d\)](#). Express the PM CPMS output as milliamps.

(4) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CPMS output data collected during all boiler or process heater operating hours (milliamps).

(5) Install, certify, operate, and maintain your PM CEMS according to the procedures in your approved site-specific monitoring plan developed in accordance with [§ 63.7505\(d\)](#), the requirements in [§ 63.7540\(a\)\(9\)](#), and [paragraphs \(b\)\(5\)\(i\) through \(iv\)](#) of this section.

- (i) You shall conduct a performance evaluation of the PM CEMS according to the applicable requirements of [§ 60.8\(e\)](#), and Performance Specification 11 at [40 CFR part 60, appendix B](#) of this chapter.
- (ii) During each PM correlation testing run of the CEMS required by Performance Specification 11 at [40 CFR part 60, appendix B](#) of this chapter, you shall collect PM and oxygen (or carbon dioxide) data concurrently (or within a 30-to 60-minute period) by both the CEMS and conducting performance tests using Method 5 at [40 CFR part 60, appendix A-3](#) or Method 17 at [40 CFR part 60, appendix A-6](#) of this chapter.
- (iii) You shall perform quarterly accuracy determinations and daily calibration drift tests in accordance with Procedure 2 at [40 CFR part 60, appendix F](#) of this chapter. You must perform Relative Response Audits annually and perform Response Correlation Audits every 3 years.
- (iv) Within 60 days after the date of completing each CEMS relative accuracy test audit or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data to the EPA by successfully submitting the data electronically into the EPA's Central Data Exchange by using the Electronic Reporting Tool (see <http://www.epa.gov/ttn/chief/ert/erttool.html/>).
- (6) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016.
- (7) Collect PM CEMS hourly average output data for all boiler or process heater operating hours except as indicated in [§ 63.7535\(a\)](#) through [\(d\)](#).
- (8) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CEMS output data collected during all boiler or process heater operating hours.
- (c) If you have an applicable opacity operating limit in this rule, and are not otherwise required or elect to install and operate a PM CPMS, PM CEMS, or a bag leak detection system, you must install, operate, certify and maintain each COMS according to the procedures in [paragraphs \(c\)\(1\) through \(7\)](#) of this section by the compliance date specified in [§ 63.7495](#).
- (1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 at appendix B to [part 60 of this chapter](#).
- (2) You must conduct a performance evaluation of each COMS according to the requirements in [§ 63.8\(e\)](#) and according to Performance Specification 1 at appendix B to [part 60 of this chapter](#).
- (3) As specified in [§ 63.8\(c\)\(4\)\(i\)](#), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in [§ 63.8\(g\)\(2\)](#).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in [§ 63.8\(d\)](#). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of [§ 63.8\(e\)](#). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit. Any 6-minute period for which the monitoring system is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements.

(7) You must determine and record all the 6-minute averages (and daily block averages as applicable) collected for periods during which the COMS is not out of control.

(d) If you have an operating limit that requires the use of a CMS other than a PM CPMS or COMS, you must install, operate, and maintain each CMS according to the procedures in [paragraphs \(d\)\(1\) through \(5\)](#) of this section by the compliance date specified in [§ 63.7495](#).

(1) The CPMS must complete a minimum of one cycle of operation every 15-minutes. You must have a minimum of four successive cycles of operation, one representing each of the four 15-minute periods in an hour, to have a valid hour of data.

(2) You must operate the monitoring system as specified in [§ 63.7535\(b\)](#), and comply with the data calculation requirements specified in [§ 63.7535\(c\)](#).

(3) Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Other situations that constitute a monitoring deviation are specified in [§ 63.7535\(d\)](#).

(4) You must determine the 30-day rolling average of all recorded readings, except as provided in [§ 63.7535\(c\)](#).

(5) You must record the results of each inspection, calibration, and validation check.

(e) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in [paragraphs \(d\) and \(e\)\(1\) through \(4\)](#) of this section.

(1) You must install the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) You must use a flow sensor with a measurement sensitivity of no greater than 2 percent of the design flow rate.

(3) You must minimize, consistent with good engineering practices, the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(4) You must conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(f) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in [paragraphs \(d\)](#) and [\(f\)\(1\)](#) through [\(6\)](#) of this section.

(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.*, PM scrubber pressure drop).

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion consistent with good engineering practices.

(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.

(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap pluggage daily).

(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in you monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(g) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in [paragraphs \(d\)](#) and [\(g\)\(1\)](#) through [\(4\)](#) of this section.

(1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Calibrate the pH monitoring system in accordance with your monitoring plan and according to the manufacturer's instructions. Clean the pH probe at least once each process operating day. Maintain on-site documentation that your calibration frequency is sufficient to maintain the specified accuracy of your device.

(4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(h) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator (ESP) operated with a wet scrubber, you must meet the requirements in [paragraphs \(h\)\(1\) and \(2\)](#) of this section.

(1) Install sensors to measure (secondary) voltage and current to the precipitator collection plates.

(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(i) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in [paragraphs \(d\) and \(i\)\(1\) through \(2\)](#) of this section.

(1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(j) If you are not required to use a PM CPMS and elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in [paragraphs \(j\)\(1\) through \(6\)](#) of this section.

(1) You must install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute PM loadings for each exhaust stack, roof vent, or compartment (e.g., for a positive pressure fabric filter) of the fabric filter.

(2) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance provided in EPA-454/R-98-015 (incorporated by reference, see [§ 63.14](#)).

(3) Use a bag leak detection system certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) Use a bag leak detection system equipped with a device to record continuously the output signal from the sensor.

(5) Use a bag leak detection system equipped with a system that will alert plant operating personnel when an increase in relative PM emissions over a preset level is detected. The alert must easily be recognizable (e.g., heard or seen) by plant operating personnel.

(6) Where multiple bag leak detectors are required, the system's instrumentation and alert may be shared among detectors.

(k) For each unit that meets the definition of limited-use boiler or process heater, you must keep fuel use records for the days the boiler or process heater was operating.

(l) For each unit for which you decide to demonstrate compliance with the mercury or HCl emissions limits in Tables 1 or 2 or 11 through 13 of this subpart by use of a CEMS for mercury or HCl, you must install, certify, maintain, and operate a CEMS measuring emissions discharged to the atmosphere and record the output of the system as specified in [paragraphs \(1\)\(1\) through \(8\)](#) of this section. For HCl, this option for an affected unit takes effect on the date a final performance specification for a HCl CEMS is published in the Federal Register or the date of approval of a site-specific monitoring plan.

(1) Notify the Administrator one month before starting use of the CEMS, and notify the Administrator one month before stopping use of the CEMS.

(2) Each CEMS shall be installed, certified, operated, and maintained according to the requirements in [§ 63.7540\(a\)\(14\)](#) for a mercury CEMS and [§ 63.7540\(a\)\(15\)](#) for a HCl CEMS.

(3) For a new unit, you must complete the initial performance evaluation of the CEMS by the latest of the dates specified in [paragraph \(1\)\(3\)\(i\)](#) through [\(iii\)](#) of this section.

(i) No later than July 30, 2013.

(ii) No later 180 days after the date of initial startup.

(iii) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance.

(4) For an existing unit, you must complete the initial performance evaluation by the latter of the two dates specified in [paragraph \(1\)\(4\)\(i\)](#) and [\(ii\)](#) of this section.

(i) No later than July 29, 2016.

(ii) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance.

(5) Compliance with the applicable emissions limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates using the continuous monitoring system outlet data. The 30-day rolling arithmetic average emission rate



(lb/MMBtu) shall be calculated using the equations in EPA Reference Method 19 at [40 CFR part 60, appendix A-7](#), but substituting the mercury or HCl concentration for the pollutant concentrations normally used in Method 19.

(6) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis. Collect at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

(7) The one-hour arithmetic averages required shall be expressed in lb/MMBtu and shall be used to calculate the boiler 30-day and 10-day rolling average emissions.

(8) You are allowed to substitute the use of the PM, mercury or HCl CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with the PM, mercury or HCl emissions limit, and if you are using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, you are allowed to substitute the use of a sulfur dioxide (SO<sub>2</sub>) CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with HCl emissions limit.

(m) If your unit is subject to a HCl emission limit in Tables 1, 2, or 11 through 13 of this subpart and you have an acid gas wet scrubber or dry sorbent injection control technology and you elect to use an SO<sub>2</sub> CEMS to demonstrate continuous compliance with the HCl emission limit, you must install the monitor at the outlet of the boiler or process heater, downstream of all emission control devices, and you must install, certify, operate, and maintain the CEMS according to either [part 60](#) or [part 75 of this chapter](#).

(1) The SO<sub>2</sub> CEMS must be installed by the compliance date specified in [§ 63.7495](#).

(2) For on-going quality assurance (QA), the SO<sub>2</sub> CEMS must meet either the applicable daily and quarterly requirements in Procedure 1 of appendix F of part 60 or the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to [part 75 of this chapter](#), with the following addition: You must perform the linearity checks required in [section 2.2](#) of appendix B to [part 75 of this chapter](#) if the SO<sub>2</sub> CEMS has a span value of 30 ppm or less.

(3) For a new unit, the initial performance evaluation shall be completed no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, the initial performance evaluation shall be completed no later than July 29, 2016.

(4) For purposes of collecting SO<sub>2</sub> data, you must operate the SO<sub>2</sub> CEMS as specified in [§ 63.7535\(b\)](#). You must use all the data collected during all periods in calculating data averages and assessing compliance, except that you must exclude certain data as specified in [§ 63.7535\(c\)](#). Periods when SO<sub>2</sub> data are unavailable may constitute monitoring deviations as specified in [§ 63.7535\(d\)](#).



(5) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis.

(6) Use only unadjusted, quality-assured SO<sub>2</sub> concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO<sub>2</sub> data and do not use part 75 substitute data values.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7171](#), Jan. 31, 2013; [80 FR 72810](#), Nov. 20, 2015]

## **§ 63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?**

(a) You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to [§ 63.7520](#), [paragraphs \(b\)](#) and [\(c\)](#) of this section, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by [§ 63.7510\(a\)\(2\)](#). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to [§ 63.7525](#).

(b) If you demonstrate compliance through performance stack testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in [§ 63.7520](#), Table 7 to this subpart, and [paragraph \(b\)\(4\)](#) of this section, as applicable. You must also conduct fuel analyses according to [§ 63.7521](#) and establish maximum fuel pollutant input levels according to [paragraphs \(b\)\(1\)](#) through [\(3\)](#) of this section, as applicable, and as specified in [§ 63.7510\(a\)\(2\)](#). (Note that [§ 63.7510\(a\)\(2\)](#) exempts certain fuels from the fuel analysis requirements.) However, if you switch fuel(s) and cannot show that the new fuel(s) does (do) not increase the chlorine, mercury, or TSM input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).

(1) You must establish the maximum chlorine fuel input (C<sub>input</sub>) during the initial fuel analysis according to the procedures in [paragraphs \(b\)\(1\)\(i\)](#) through [\(iii\)](#) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine.

(ii) During the fuel analysis for hydrogen chloride, you must determine the fraction of the total heat input for each fuel type burned (Q<sub>i</sub>) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (C<sub>i</sub>).

(iii) You must establish a maximum chlorine input level using Equation 7 of this section.

$$Cl_{input} = \sum_{i=1}^n (C_i \times Q_i) \quad (\text{Eq. 7})$$

Where:

$Cl_{input}$  = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$C_i$  = Arithmetic average concentration of chlorine in fuel type,  $i$ , analyzed according to [§ 63.7521](#), in units of pounds per million Btu.

$Q_i$  = Fraction of total heat input from fuel type,  $i$ , based on the fuel mixture that has the highest content of chlorine during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of “1” for  $Q_i$ . For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) You must establish the maximum mercury fuel input level ( $Mercury_{input}$ ) during the initial fuel analysis using the procedures in [paragraphs \(b\)\(2\)\(i\)](#) through [\(iii\)](#) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned ( $Q_i$ ) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned ( $HG_i$ ).

(iii) You must establish a maximum mercury input level using Equation 8 of this section.

$$Mercury_{input} = \sum_{i=1}^n (HG_i \times Q_i) \quad (\text{Eq. 8})$$

Where:

$Mercury_{input}$  = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

$HG_i$  = Arithmetic average concentration of mercury in fuel type,  $i$ , analyzed according to [§ 63.7521](#), in units of pounds per million Btu.

$Q_i$  = Fraction of total heat input from fuel type,  $i$ , based on the fuel mixture that has the highest mercury content during the initial compliance test. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of “1” for  $Q_i$ . For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.

(3) If you opt to comply with the alternative TSM limit, you must establish the maximum TSM fuel input (TSMinput) for solid or liquid fuels during the initial fuel analysis according to the procedures in [paragraphs \(b\)\(3\)\(i\)](#) through [\(iii\)](#) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.

(ii) During the fuel analysis for TSM, you must determine the fraction of the total heat input for each fuel type burned ( $Q_i$ ) based on the fuel mixture that has the highest content of TSM, and the average TSM concentration of each fuel type burned (TSM $_i$ ).

(iii) You must establish a maximum TSM input level using Equation 9 of this section.

$$TSM_{input} = \sum_{i=1}^n (TSM_i \times Q_i) \quad (\text{Eq. 9})$$

Where:

TSMinput = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.

TSM $_i$  = Arithmetic average concentration of TSM in fuel type,  $i$ , analyzed according to [§ 63.7521](#), in units of pounds per million Btu.

$Q_i$  = Fraction of total heat input from fuel type,  $i$ , based on the fuel mixture that has the highest content of TSM during the initial compliance test. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of “1” for  $Q_i$ . For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(4) You must establish parameter operating limits according to [paragraphs \(b\)\(4\)\(i\)](#) through [\(ix\)](#) of this section. As indicated in Table 4 to this subpart, you are not required to establish

and comply with the operating parameter limits when you are using a CEMS to monitor and demonstrate compliance with the applicable emission limit for that control device parameter.

(i) For a wet acid gas scrubber, you must establish the minimum scrubber effluent pH and liquid flow rate as defined in [§ 63.7575](#), as your operating limits during the performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for HCl and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flow rate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate operating limit at the higher of the minimum values established during the performance tests.

(ii) For any particulate control device (e.g., ESP, particulate wet scrubber, fabric filter) for which you use a PM CPMS, you must establish your PM CPMS operating limit and determine compliance with it according to [paragraphs \(b\)\(4\)\(ii\)\(A\) through \(F\)](#) of this section.

(A) Determine your operating limit as the average PM CPMS output value recorded during the most recent performance test run demonstrating compliance with the filterable PM emission limit or at the PM CPMS output value corresponding to 75 percent of the emission limit if your PM performance test demonstrates compliance below 75 percent of the emission limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(1) Your PM CPMS must provide a 4-20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamperes.

(2) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit.

(3) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

(B) If the average of your three PM performance test runs are below 75 percent of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average

PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in [paragraphs \(b\)\(4\)\(ii\)\(B\)\(1\)](#) through [\(4\)](#) of this section.

(1) Determine your instrument zero output with one of the following procedures:

(i) Zero point data for *in-situ* instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(ii) Zero point data for *extractive* instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(iii) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

(iv) If none of the steps in [paragraphs \(b\)\(4\)\(ii\)\(B\)\(1\)\(i\)](#) through [\(iii\)](#) of this section are possible, you must use a zero output value provided by the manufacturer.

(2) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 10.

$$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i \quad \bar{Y} = \frac{1}{n} \sum_{i=1}^n Y_i \quad (\text{Eq. 10})$$

Where:

$X_i$  = the PM CPMS data points for the three runs constituting the performance test,

$Y_i$  = the PM concentration value for the three runs constituting the performance test, and

$n$  = the number of data points.

(3) With your instrument zero expressed in milliamps, your three run average PM CPMS milliamp value, and your three run average PM concentration from your three compliance tests, determine a relationship of lb/MMBtu per milliamp with equation 11.

$$R = \frac{Y_i}{(X_i - z)} \quad (\text{Eq. 11})$$

Where:

R = the relative lb/MMBtu per milliamp for your PM CPMS,

$Y_1$  = the three run average lb/MMBtu PM concentration,

$X_1$  = the three run average milliamp output from you PM CPMS, and

z = the milliamp equivalent of your instrument zero determined from (B)(i).

(4) Determine your source specific 30-day rolling average operating limit using the lb/MMBtu per milliamp value from Equation 11 in equation 12, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit.

$$O_1 = z + \frac{0.75L}{R} \quad (\text{Eq. 12})$$

Where:

$O_1$  = the operating limit for your PM CPMS on a 30-day rolling average, in milliamps.

L = your source emission limit expressed in lb/MMBtu,

z = your instrument zero in milliamps, determined from (B)(i), and

R = the relative lb/MMBtu per milliamp for your PM CPMS, from Equation 11.

(C) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit you must determine your 30-day rolling average operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using equation 13 and you must submit all compliance test and PM CPMS data according to the reporting requirements in [paragraph \(b\)\(4\)\(ii\)\(F\)](#) of this section.

$$O_2 = \frac{1}{n} \sum_{i=1}^n X_1 \quad (\text{Eq. 13})$$

Where:

$X_1$  = the PM CPMS data points for all runs i,

n = the number of data points, and

$O_h$  = your site specific operating limit, in milliamps.

(D) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis, updated at the end of each new operating hour. Use Equation 14 to determine the 30-day rolling average.

$$30\text{-day} = \frac{\sum_{i=1}^n Hpvi}{n} \quad (\text{Eq. 14})$$

Where:

30-day = 30-day average.

$Hpvi$  = is the hourly parameter value for hour  $i$

$n$  = is the number of valid hourly parameter values collected over the previous 30 operating days.

(E) Use EPA Method 5 of appendix A to [part 60 of this chapter](#) to determine PM emissions. For each performance test, conduct three separate runs under the conditions that exist when the affected source is operating at the highest load or capacity level reasonably expected to occur. Conduct each test run to collect a minimum sample volume specified in Tables 1, 2, or 11 through 13 to this subpart, as applicable, for determining compliance with a new source limit or an existing source limit. Calculate the average of the results from three runs to determine compliance. You need not determine the PM collected in the impingers (“back half”) of the Method 5 particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the “back half” for other purposes.

(F) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (*e.g.* beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run.

(iii) For a particulate wet scrubber, you must establish the minimum pressure drop and liquid flow rate as defined in [§ 63.7575](#), as your operating limits during the three-run performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for PM and TSM emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests.

(iv) For an electrostatic precipitator (ESP) operated with a wet scrubber, you must establish the minimum total secondary electric power input, as defined in [§ 63.7575](#), as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (These operating limits do not apply to ESP that are operated as dry controls without a wet scrubber.)

(v) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in [§ 63.7575](#), as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vi) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in [§ 63.7575](#), as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.

(vii) The operating limit for boilers or process heaters with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in [§ 63.7525](#), and that each fabric filter must be operated such that the bag leak detection system alert is not activated more than 5 percent of the operating time during a 6-month period.

(viii) For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

(ix) The operating limit for boilers or process heaters that demonstrate continuous compliance with the HCl emission limit using a SO<sub>2</sub> CEMS is to install and operate the SO<sub>2</sub> according to the requirements in [§ 63.7525\(m\)](#) establish a maximum SO<sub>2</sub> emission rate equal to the highest hourly average SO<sub>2</sub> measurement during the most recent three-run performance test for HCl.

(c) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to [§ 63.7521](#) and follow the procedures in [paragraphs \(c\)\(1\) through \(5\)](#) of this section.



(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided t-statistic test described in Equation 15 of this section.

$$P90 = mean + (SD \times t) \quad (\text{Eq. 15})$$

Where:

P90 = 90th percentile confidence level pollutant concentration, in pounds per million Btu.

Mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to [§ 63.7521](#), in units of pounds per million Btu.

SD = Standard deviation of the mean of pollutant concentration in the fuel samples analyzed according to [§ 63.7521](#), in units of pounds per million Btu. SD is calculated as the sample standard deviation divided by the square root of the number of samples.

t = t distribution critical value for 90th percentile ( $t_{0.1}$ ) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a t-Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 16 of this section must not exceed the applicable emission limit for HCl.

$$HCl = \sum_{i=1}^n (Ci90 \times Qi \times 1.028) \quad (\text{Eq. 16})$$

Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

Ci90 = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of “1” for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

(4) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 17 of this section must not exceed the applicable emission limit for mercury.

$$Mercury = \sum_{i=1}^n (Hgi90 \times Qi) \quad (\text{Eq. 17})$$

Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

Hgi90 = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of “1” for Qi. For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

(5) To demonstrate compliance with the applicable emission limit for TSM for solid or liquid fuels, the TSM emission rate that you calculate for your boiler or process heater from solid fuels using Equation 18 of this section must not exceed the applicable emission limit for TSM.

$$Metals = \sum_{i=1}^n (TSM90i \times Qi) \quad (\text{Eq. 18})$$

Where:

Metals = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

TSMi90 = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 15 of this section.

$Q_i$  = Fraction of total heat input from fuel type,  $i$ , based on the fuel mixture that has the highest TSM content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of “1” for  $Q_i$ . For continuous compliance demonstration, the actual fraction of the fuel burned during the month should be used.

$n$  = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest TSM content.

(d) [Reserved]

(e) You must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to Table 3 to this subpart, and that the assessment is an accurate depiction of your facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

(f) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in [§ 63.7545\(e\)](#).

(g) If you elect to demonstrate that a gaseous fuel meets the specifications of another gas 1 fuel as defined in [§ 63.7575](#), you must conduct an initial fuel specification analyses according to [§ 63.7521\(f\)](#) through [\(i\)](#) and according to the frequency listed in [§ 63.7540\(c\)](#) and maintain records of the results of the testing as outlined in [§ 63.7555\(g\)](#). For samples where the initial mercury specification has not been exceeded, you will include a signed certification with the Notification of Compliance Status that the initial fuel specification test meets the gas specification outlined in the definition of other gas 1 fuels.

(h) If you own or operate a unit subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, you must meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, you must only follow the work practice standards according to items 5 and 6 of Table 3 of this subpart.

(i) If you opt to comply with the alternative SO<sub>2</sub> CEMS operating limit in Tables 4 and 8 to this subpart, you may do so only if your affected boiler or process heater:

(1) Has a system using wet scrubber or dry sorbent injection and SO<sub>2</sub> CEMS installed on the unit; and

(2) At all times, you operate the wet scrubber or dry sorbent injection for acid gas control on the unit consistent with [§ 63.7500\(a\)\(3\)](#); and

(3) You establish a unit-specific maximum SO<sub>2</sub> operating limit by collecting the maximum hourly SO<sub>2</sub> emission rate on the SO<sub>2</sub> CEMS during the paired 3-run test for HCl. The maximum SO<sub>2</sub> operating limit is equal to the highest hourly average SO<sub>2</sub> concentration measured during the HCl performance test.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7174](#), Jan. 31, 2013; [80 FR 72811](#), Nov. 20, 2015]

## **§ 63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?**

(a) If you elect to comply with the alternative equivalent output-based emission limits, instead of the heat input-based limits listed in Table 2 to this subpart, and you want to take credit for implementing energy conservation measures identified in an energy assessment, you may demonstrate compliance using efficiency credits according to the procedures in this section. You may use this compliance approach for an existing affected boiler for demonstrating initial compliance according to [§ 63.7522\(e\)](#) and for demonstrating monthly compliance according to [§ 63.7522\(f\)](#). Owners or operators using this compliance approach must establish an emissions benchmark, calculate and document the efficiency credits, develop an Implementation Plan, comply with the general reporting requirements, and apply the efficiency credit according to the procedures in [paragraphs \(b\) through \(f\)](#) of this section. You cannot use this compliance approach for a new or reconstructed affected boiler. Additional guidance from the Department of Energy on efficiency credits is available at: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

(b) For each existing affected boiler for which you intend to apply emissions credits, establish a benchmark from which emission reduction credits may be generated by determining the actual annual fuel heat input to the affected boiler before initiation of an energy conservation activity to reduce energy demand (*i.e.*, fuel usage) according to [paragraphs \(b\)\(1\) through \(4\)](#) of this section. The benchmark shall be expressed in trillion Btu per year heat input.

(1) The benchmark from which efficiency credits may be generated shall be determined by using the most representative, accurate, and reliable process available for the source. The benchmark shall be established for a one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.

(2) Determine the starting point from which to measure progress. Inventory all fuel purchased and generated on-site (off-gases, residues) in physical units (MMBtu, million cubic feet, etc.).

(3) Document all uses of energy from the affected boiler. Use the most recent data available.

(4) Collect non-energy related facility and operational data to normalize, if necessary, the benchmark to current operations, such as building size, operating hours, etc. If possible, use actual data that are current and timely rather than estimated data.

(c) Efficiency credits can be generated if the energy conservation measures were implemented after January 1, 2008 and if sufficient information is available to determine the appropriate value of credits.

(1) The following emission points cannot be used to generate efficiency credits:

(i) Energy conservation measures implemented on or before January 1, 2008, unless the level of energy demand reduction is increased after January 1, 2008, in which case credit will be allowed only for change in demand reduction achieved after January 1, 2008.

(ii) Efficiency credits on shut-down boilers. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to energy conservation measures identified in the energy assessment. In this case, the benchmark established for the affected boiler to which the credits from the shutdown will be applied must be revised to include the benchmark established for the shutdown boiler.

(2) For all points included in calculating emissions credits, the owner or operator shall:

(i) Calculate annual credits for all energy demand points. Use Equation 19 to calculate credits. Energy conservation measures that meet the criteria of [paragraph \(c\)\(1\)](#) of this section shall not be included, except as specified in [paragraph \(c\)\(1\)\(i\)](#) of this section.

(3) Credits are generated by the difference between the benchmark that is established for each affected boiler, and the actual energy demand reductions from energy conservation measures implemented after January 1, 2008. Credits shall be calculated using Equation 19 of this section as follows:

(i) The overall equation for calculating credits is:

$$ECredits = \left( \sum_{i=1}^n EIS_{iactual} \right) \div EI_{baseline} \quad (Eq. 19)$$

Where:

ECredits = Energy Input Savings for all energy conservation measures implemented for an affected boiler, expressed as a decimal fraction of the baseline energy input.

$EIS_{iactual}$  = Energy Input Savings for each energy conservation measure, i, implemented for an affected boiler, million Btu per year.

$EI_{baseline}$  = Energy Input baseline for the affected boiler, million Btu per year.

n = Number of energy conservation measures included in the efficiency credit for the affected boiler.

(ii) [Reserved]

(d) The owner or operator shall develop, and submit for approval upon request by the Administrator, an Implementation Plan containing all of the information required in this paragraph for all boilers to be included in an efficiency credit approach. The Implementation Plan shall identify all existing affected boilers to be included in applying the efficiency credits. The Implementation Plan shall include a description of the energy conservation measures implemented and the energy savings generated from each measure and an explanation of the criteria used for determining that savings. If requested, you must submit the implementation plan for efficiency credits to the Administrator for review and approval no later than 180 days before the date on which the facility intends to demonstrate compliance using the efficiency credit approach.

(e) The emissions rate as calculated using Equation 20 of this section from each existing boiler participating in the efficiency credit option must be in compliance with the limits in Table 2 to this subpart at all times the affected unit is subject to numeric emission limits, following the compliance date specified in [§ 63.7495](#).

(f) You must use Equation 20 of this section to demonstrate initial compliance by demonstrating that the emissions from the affected boiler participating in the efficiency credit compliance approach do not exceed the emission limits in Table 2 to this subpart.

$$E_{adj} = E_m \times (1 - ECredits) \quad (Eq. 20)$$

Where:

$E_{adj}$  = Emission level adjusted by applying the efficiency credits earned, lb per million Btu steam output (or lb per MWh) for the affected boiler.

$E_m$  = Emissions measured during the performance test, lb per million Btu steam output (or lb per MWh) for the affected boiler.

ECredits = Efficiency credits from Equation 19 for the affected boiler.

(g) As part of each compliance report submitted as required under [§ 63.7550](#), you must include documentation that the energy conservation measures implemented continue to generate the credit for use in demonstrating compliance with the emission limits.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7178](#), Jan. 31, 2013; [80 FR 72812](#), Nov. 20, 2015]

Continuous Compliance Requirements

**§ 63.7535 Is there a minimum amount of monitoring data I must obtain?**

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by [§ 63.7505\(d\)](#).

(b) You must operate the monitoring system and collect data at all required intervals at all times that each boiler or process heater is operating and compliance is required, except for periods of monitoring system malfunctions or out of control periods (see [§ 63.8\(c\)\(7\) of this part](#)), and required monitoring system quality assurance or control activities, including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data recorded during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. You must record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. You must use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods of startup and shutdown, when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. You must calculate monitoring results using all other monitoring data collected while the process is operating. You must report all periods when the monitoring system is out of control in your semi-annual report.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7179](#), Jan. 31, 2013; [80 FR 72812](#), Nov. 20, 2015]

## **§ 63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?**

(a) You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and [paragraphs \(a\)\(1\) through \(19\)](#) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under [§§ 63.7](#) and [63.7510](#), whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests.

(2) As specified in [§ 63.7555\(d\)](#), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:

(i) Equal to or lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.

(ii) Equal to or lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis for a solid or liquid fuel and you plan to burn a new type of solid or liquid fuel, you must recalculate the HCl emission rate using Equation 16 of [§ 63.7530](#) according to [paragraphs \(a\)\(3\)\(i\) through \(iii\)](#) of this section. You are not required to conduct fuel analyses for the fuels described in [§ 63.7510\(a\)\(2\)\(i\) through \(iii\)](#). You may exclude the fuels described in [§ 63.7510\(a\)\(2\)\(i\) through \(iii\)](#) when recalculating the HCl emission rate.

(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to [§ 63.7521\(b\)](#).

(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.

(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 16 of [§ 63.7530](#). The recalculated HCl emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 7 of [§ 63.7530](#). If the results of recalculating the maximum chlorine input using Equation 7 of [§ 63.7530](#) are greater than the



maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in [§ 63.7520](#) to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in [§ 63.7530\(b\)](#). In recalculating the maximum chlorine input and establishing the new operating limits, you are not required to conduct fuel analyses for and include the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#).

(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 17 of [§ 63.7530](#) according to the procedures specified in [paragraphs \(a\)\(5\)\(i\)](#) through [\(iii\)](#) of this section. You are not required to conduct fuel analyses for the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#). You may exclude the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#) when recalculating the mercury emission rate.

(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to [§ 63.7521\(b\)](#).

(ii) You must determine the new mixture of fuels that will have the highest content of mercury.

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 17 of [§ 63.7530](#). The recalculated mercury emission rate must be less than the applicable emission limit.

(6) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 8 of [§ 63.7530](#). If the results of recalculating the maximum mercury input using Equation 8 of [§ 63.7530](#) are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in [§ 63.7520](#) to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in [§ 63.7530\(b\)](#). You are not required to conduct fuel analyses for the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#). You may exclude the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#) when recalculating the mercury emission rate.

(7) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alert and complete corrective actions as soon as practical, and operate and maintain the fabric filter system such that the periods which would cause an alert are no more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alert, the time corrective action was initiated and completed, and a brief description of the cause of the alert and the corrective action

taken. You must also record the percent of the operating time during each 6-month period that the conditions exist for an alert. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alert time is counted. If corrective action is required, each alert shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alert time shall be counted as the actual amount of time taken to initiate corrective action.

(8) To demonstrate compliance with the applicable alternative CO CEMS emission limit listed in Tables 1, 2, or 11 through 13 to this subpart, you must meet the requirements in [paragraphs \(a\)\(8\)\(i\)](#) through [\(iv\)](#) of this section.

(i) Continuously monitor CO according to [§§ 63.7525\(a\)](#) and [63.7535](#).

(ii) Maintain a CO emission level below or at your applicable alternative CO CEMS-based standard in Tables 1 or 2 or 11 through 13 to this subpart at all times the affected unit is subject to numeric emission limits.

(iii) Keep records of CO levels according to [§ 63.7555\(b\)](#).

(iv) You must record and make available upon request results of CO CEMS performance audits, dates and duration of periods when the CO CEMS is out of control to completion of the corrective actions necessary to return the CO CEMS to operation consistent with your site-specific monitoring plan.

(9) The owner or operator of a boiler or process heater using a PM CPMS or a PM CEMS to meet requirements of this subpart shall install, certify, operate, and maintain the PM CPMS or PM CEMS in accordance with your site-specific monitoring plan as required in [§ 63.7505\(d\)](#).

(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in [paragraphs \(a\)\(10\)\(i\)](#) through [\(vi\)](#) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in [§ 63.7575](#), or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

(iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;

(iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO<sub>x</sub> requirement to which the unit is subject;

(v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

(vi) Maintain on-site and submit, if requested by the Administrator, a report containing the information in [paragraphs \(a\)\(10\)\(vi\)\(A\) through \(C\)](#) of this section,

(A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;

(B) A description of any corrective actions taken as a part of the tune-up; and

(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

(11) If your boiler or process heater has a heat input capacity of less than 10 million Btu per hour (except as specified in [paragraph \(a\)\(12\)](#) of this section), you must conduct a biennial tune-up of the boiler or process heater as specified in [paragraphs \(a\)\(10\)\(i\) through \(vi\)](#) of this section to demonstrate continuous compliance.

(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in [§ 63.7575](#), you must conduct a tune-up of the boiler or process heater every 5 years as specified in [paragraphs \(a\)\(10\)\(i\) through \(vi\)](#) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in [paragraph \(a\)\(10\)\(i\)](#) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months. If an oxygen trim system is

utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.

(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

(14) If you are using a CEMS measuring mercury emissions to meet requirements of this subpart you must install, certify, operate, and maintain the mercury CEMS as specified in [paragraphs \(a\)\(14\)\(i\)](#) and [\(ii\)](#) of this section.

(i) Operate the mercury CEMS in accordance with performance specification 12A of [40 CFR part 60, appendix B](#) or operate a sorbent trap based integrated monitor in accordance with performance specification 12B of [40 CFR part 60, appendix B](#). The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in [§ 63.7545\(e\)\(2\)\(iii\)](#) for mercury CEMS or it must be 720 hours if you specified a 720 hour basis in [§ 63.7545\(e\)\(2\)\(iii\)](#) for mercury CEMS. For each day in which the unit operates, you must obtain hourly mercury concentration data, and stack gas volumetric flow rate data.

(ii) If you are using a mercury CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the mercury mass emissions rate to the atmosphere according to the requirements of performance specifications 6 and 12A of [40 CFR part 60, appendix B](#), and quality assurance procedure 6 of [40 CFR part 60, appendix F](#).

(15) If you are using a CEMS to measure HCl emissions to meet requirements of this subpart, you must install, certify, operate, and maintain the HCl CEMS as specified in [paragraphs \(a\)\(15\)\(i\)](#) and [\(ii\)](#) of this section. This option for an affected unit takes effect on the date a final performance specification for an HCl CEMS is published in the Federal Register or the date of approval of a site-specific monitoring plan.

(i) Operate the continuous emissions monitoring system in accordance with the applicable performance specification in [40 CFR part 60, appendix B](#). The duration of the performance test must be 30 operating days if you specified a 30 operating day basis in [§ 63.7545\(e\)\(2\)\(iii\)](#) for HCl CEMS or it must be 720 hours if you specified a 720 hour basis in [§ 63.7545\(e\)\(2\)\(iii\)](#) for HCl CEMS. For each day in which the unit operates, you must obtain hourly HCl concentration data, and stack gas volumetric flow rate data.

(ii) If you are using a HCl CEMS, you must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the HCl mass emissions rate to the atmosphere according to the requirements of the applicable performance specification of [40 CFR part 60, appendix B](#), and the quality assurance procedures of [40 CFR part 60, appendix F](#).

(16) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 9 of [§ 63.7530](#). If the results of recalculating the maximum TSM input using Equation 9 of [§ 63.7530](#) are higher than the maximum total selected input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in [§ 63.7520](#) to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in [§ 63.7530\(b\)](#). You are not required to conduct fuel analyses for the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#). You may exclude the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#) when recalculating the TSM emission rate.

(17) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis for solid or liquid fuels, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 18 of [§ 63.7530](#) according to the procedures specified in [paragraphs \(a\)\(5\)\(i\) through \(iii\)](#) of this section. You are not required to conduct fuel analyses for the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#). You may exclude the fuels described in [§ 63.7510\(a\)\(2\)\(i\)](#) through [\(iii\)](#) when recalculating the TSM emission rate.

(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to [§ 63.7521\(b\)](#).

(ii) You must determine the new mixture of fuels that will have the highest content of TSM.

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 18 of [§ 63.7530](#). The recalculated TSM emission rate must be less than the applicable emission limit.

(18) If you demonstrate continuous PM emissions compliance with a PM CPMS you will use a PM CPMS to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. You will conduct your performance test using the test method criteria in Table 5 of this subpart. You will use the PM CPMS to demonstrate continuous compliance with this operating limit. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(i) To determine continuous compliance, you must record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. You must demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis.

(ii) For any deviation of the 30-day rolling PM CPMS average value from the established operating parameter limit, you must:

(A) Within 48 hours of the deviation, visually inspect the air pollution control device (APCD);

(B) If inspection of the APCD identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(C) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.

(iii) PM CPMS deviations from the operating limit leading to more than four required performance tests in a 12-month operating period constitute a separate violation of this subpart.

(19) If you choose to comply with the PM filterable emissions limit by using PM CEMS you must install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in [paragraphs \(a\)\(19\)\(i\) through \(vii\)](#) of this section. The compliance limit will be expressed as a 30-day rolling average of the numerical emissions limit value applicable for your unit in Tables 1 or 2 or 11 through 13 of this subpart.

(i) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11 - Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to [part 60 of this chapter](#), using test criteria outlined in Table V of this rule. The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh).

(ii) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2 - Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to [part 60 of this chapter](#).

(A) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually.

(B) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years.

(iii) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in [paragraph \(v\)](#) of this section.



(iv) Calculate the arithmetic 30-day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler or process heater operating hours.

(v) You must collect data using the PM CEMS at all times the unit is operating and at the intervals specified in [paragraph \(a\)](#), except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities.

(vi) You must use all the data collected during all boiler or process heater operating hours in assessing the compliance with your operating limit except:

(A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in your annual deviation report;

(B) Any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in your annual deviation report;

(C) Any data recorded during periods of startup or shutdown.

(vii) You must record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with your site-specific monitoring plan.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 or 11 through 13 to this subpart that apply to you. These instances are deviations from the emission limits or operating limits, respectively, in this subpart. These deviations must be reported according to the requirements in [§ 63.7550](#).

(c) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must follow the sampling frequency specified in [paragraphs \(c\)\(1\) through \(4\)](#) of this section and conduct this sampling according to the procedures in [§ 63.7521\(f\)](#) through [\(i\)](#).

(1) If the initial mercury constituents in the gaseous fuels are measured to be equal to or less than half of the mercury specification as defined in [§ 63.7575](#), you do not need to conduct further sampling.

(2) If the initial mercury constituents are greater than half but equal to or less than 75 percent of the mercury specification as defined in [§ 63.7575](#), you will conduct semi-annual sampling. If 6 consecutive semi-annual fuel analyses demonstrate 50 percent or less of the mercury

specification, you do not need to conduct further sampling. If any semi-annual sample exceeds 75 percent of the mercury specification, you must return to monthly sampling for that fuel, until 12 months of fuel analyses again are less than 75 percent of the compliance level.

(3) If the initial mercury constituents are greater than 75 percent of the mercury specification as defined in [§ 63.7575](#), you will conduct monthly sampling. If 12 consecutive monthly fuel analyses demonstrate 75 percent or less of the mercury specification, you may decrease the fuel analysis frequency to semi-annual for that fuel.

(4) If the initial sample exceeds the mercury specification as defined in [§ 63.7575](#), each affected boiler or process heater combusting this fuel is not part of the unit designed to burn gas 1 subcategory and must be in compliance with the emission and operating limits for the appropriate subcategory. You may elect to conduct additional monthly sampling while complying with these emissions and operating limits to demonstrate that the fuel qualifies as another gas 1 fuel. If 12 consecutive monthly fuel analyses samples are at or below the mercury specification as defined in [§ 63.7575](#), each affected boiler or process heater combusting the fuel can elect to switch back into the unit designed to burn gas 1 subcategory until the mercury specification is exceeded.

(d) For startup and shutdown, you must meet the work practice standards according to items 5 and 6 of Table 3 of this subpart.

[[78 FR 7179](#), Jan. 31, 2013, as amended at [80 FR 72813](#), Nov. 20, 2015]

## **§ 63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?**

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of [paragraphs \(a\)\(1\)](#) through [\(5\)](#) of this section.

(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing units participating in the emissions averaging option as determined in [§ 63.7522\(f\)](#) and [\(g\)](#).

(2) You must maintain the applicable opacity limit according to [paragraphs \(a\)\(2\)\(i\)](#) and [\(ii\)](#) of this section.

(i) For each existing unit participating in the emissions averaging option that is equipped with a dry control system and not vented to a common stack, maintain opacity at or below the applicable limit.

(ii) For each group of units participating in the emissions averaging option where each unit in the group is equipped with a dry control system and vented to a common stack that does



not receive emissions from non-affected units, maintain opacity at or below the applicable limit at the common stack.

(3) For each existing unit participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 30-day rolling average parameter values at or above the operating limits established during the most recent performance test.

(4) For each existing unit participating in the emissions averaging option that has an approved alternative operating parameter, maintain the 30-day rolling average parameter values consistent with the approved monitoring plan.

(5) For each existing unit participating in the emissions averaging option venting to a common stack configuration containing affected units from other subcategories, maintain the appropriate operating limit for each unit as specified in Table 4 to this subpart that applies.

(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in [paragraphs \(a\)\(1\)](#) through [\(5\)](#) of this section is a deviation.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7182](#), Jan. 31, 2013]

Notification, Reports, and Records

## **§ 63.7545 What notifications must I submit and when?**

(a) You must submit to the Administrator all of the notifications in [§§ 63.7\(b\)](#) and [\(c\)](#), [63.8\(e\)](#), [\(f\)\(4\)](#) and [\(6\)](#), and [63.9\(b\)](#) through [\(h\)](#) that apply to you by the dates specified.

(b) As specified in [§ 63.9\(b\)\(2\)](#), if you startup your affected source before January 31, 2013, you must submit an Initial Notification not later than 120 days after January 31, 2013, or no later than 120 days after the source becomes subject to this subpart, whichever is later.

(c) As specified in [§ 63.9\(b\)\(4\)](#) and [\(5\)](#), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. For a new or reconstructed affected source that has reclassified to major source status, you must submit an Initial Notification not later 120 days after the source becomes subject to this subpart.

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in [§ 63.7530](#), you must submit a Notification of Compliance Status according to [§ 63.9\(h\)\(2\)\(ii\)](#). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test

and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to [§ 63.10\(d\)\(2\)](#). The Notification of Compliance Status report must contain all the information specified in [paragraphs \(e\)\(1\)](#) through [\(8\)](#) of this section, as applicable. If you are not required to conduct an initial compliance demonstration as specified in [§ 63.7530\(a\)](#), the Notification of Compliance Status must only contain the information specified in [paragraphs \(e\)\(1\)](#) and [\(8\)](#) of this section and must be submitted within 60 days of the compliance date specified at [§ 63.7495\(b\)](#).

(1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under [§ 241.3 of this chapter](#), whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of [§ 241.3 of this chapter](#), and justification for the selection of fuel(s) burned during the compliance demonstration.

(2) Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits, and including:

(i) Identification of whether you are complying with the PM emission limit or the alternative TSM emission limit.

(ii) Identification of whether you are complying with the output-based emission limits or the heat input-based (i.e., lb/MMBtu or ppm) emission limits,

(iii) Identification of whether you are complying the arithmetic mean of all valid hours of data from the previous 30 operating days or of the previous 720 hours. This identification shall be specified separately for each operating parameter.

(3) A summary of the maximum CO emission levels recorded during the performance test to show that you have met any applicable emission standard in Tables 1, 2, or 11 through 13 to this subpart, if you are not using a CO CEMS to demonstrate compliance.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing, a CEMS, or fuel analysis.

(5) Identification of whether you plan to demonstrate compliance by emissions averaging and identification of whether you plan to demonstrate compliance by using efficiency credits through energy conservation:

(i) If you plan to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on January 31, 2013.

(ii) [Reserved]

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

(8) In addition to the information required in [§ 63.9\(h\)\(2\)](#), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) “This facility completed the required initial tune-up for all of the boilers and process heaters covered by [40 CFR part 63 subpart DDDDD](#) at this site according to the procedures in [§ 63.7540\(a\)\(10\)\(i\)](#) through [\(vi\)](#).”

(ii) “This facility has had an energy assessment performed according to [§ 63.7530\(e\)](#).”

(iii) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: “No secondary materials that are solid waste were combusted in any affected unit.”

(f) If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in [§ 63.7575](#), you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in [§ 63.7575](#). The notification must include the information specified in [paragraphs \(f\)\(1\) through \(5\)](#) of this section.

(1) Company name and address.

(2) Identification of the affected unit.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

(g) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, as defined in [§ 63.7490](#), the location of the source, the boiler(s) or process heater(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategories under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(h) If you have switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:

(1) The name of the owner or operator of the affected source, as defined in [§ 63.7490](#), the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date upon which the fuel switch or physical change occurred.

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7183](#), Jan. 31, 2013; [80 FR 72814](#), Nov. 20, 2015; [85 FR 73913](#), Nov. 19, 2020; [85 FR 84262](#), Dec. 28, 2020]

## **§ 63.7550 What reports must I submit and when?**

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under [§ 63.10\(a\)](#), you must submit each report, according to [paragraph \(h\)](#) of this section, by the date in Table 9 to this subpart and according to the requirements in [paragraphs \(b\)\(1\) through \(4\)](#) of this section. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to [§ 63.7540\(a\)\(10\)](#), [\(11\)](#), or [\(12\)](#), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in [paragraphs \(b\)\(1\) through \(4\)](#) of this section, instead of a semi-annual compliance report.

(1) The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in [§ 63.7495](#) and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in [§ 63.7495](#). If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in [§](#)

[63.7495](#) and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in [§ 63.7495](#).

(2) The first semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in [§ 63.7495](#). The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.

(3) Each subsequent semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.

(4) Each subsequent semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.

(5) For each affected source that is subject to permitting regulations pursuant to [part 70](#) or [part 71 of this chapter](#), and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in [paragraphs \(b\)\(1\) through \(4\)](#) of this section.

(c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule.

(1) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in [paragraphs \(c\)\(5\)\(i\) through \(iii\)](#) of this section, (xiv) and (xvii) of this section, and [paragraph \(c\)\(5\)\(iv\)](#) of this section for limited-use boiler or process heater.

(2) If you are complying with the fuel analysis you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii), (vi), (x), (xi), (xiii), (xv), (xvii), (xviii) and [paragraph \(d\)](#) of this section.

(3) If you are complying with the applicable emissions limit with performance testing you must submit a compliance report with the information in (c)(5)(i) through (iii), (vi), (vii), (viii), (ix), (xi), (xiii), (xv), (xvii), (xviii) and [paragraph \(d\)](#) of this section.

(4) If you are complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (iii), (v), (vi), (xi) through (xiii), (xv) through (xviii), and [paragraph \(e\)](#) of this section.

(5)

- (i) Company and Facility name and address.
- (ii) Process unit information, emissions limitations, and operating parameter limitations.
- (iii) Date of report and beginning and ending dates of the reporting period.
- (iv) The total operating time during the reporting period.
- (v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit.
- (vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.
- (vii) If you are conducting performance tests once every 3 years consistent with [§ 63.7515\(b\)](#) or [\(c\)](#), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.
- (viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of [§ 63.7530](#), that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 16 of [§ 63.7530](#) that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of [§ 63.7530](#), that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 17 of [§ 63.7530](#) that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of [§ 63.7530](#), that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 18 of [§ 63.7530](#), that demonstrates that

your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of [§ 63.7530](#) or the maximum mercury input operating limit using Equation 8 of [§ 63.7530](#), or the maximum TSM input operating limit using Equation 9 of [§ 63.7530](#) you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to [§§ 63.7521](#) and [63.7530](#) for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to [§§ 63.7521\(f\)](#) and [63.7530\(g\)](#).

(xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.

(xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in [§ 63.8\(c\)\(7\)](#), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.

(xiii) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period 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 you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with [§ 63.7500\(a\)\(3\)](#), including actions taken to correct the malfunction.

(xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to [§ 63.7540\(a\)\(10\)](#), [\(11\)](#), or [\(12\)](#) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

(xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in [§ 63.7545\(e\)\(5\)\(i\)](#).

(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values for CEMS (CO, HCl, SO<sub>2</sub>, and mercury), 10 day rolling average



values for CO CEMS when the limit is expressed as a 10 day instead of 30 day rolling average, and the PM CPMS data.

(xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(xviii) For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of [§ 63.7555\(d\)](#).

(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods of startup and shutdown, the compliance report must additionally contain the information required in [paragraphs \(d\)\(1\)](#) through [\(3\)](#) of this section.

(1) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

(2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

(3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed.

(e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in [paragraphs \(e\)\(1\)](#) through [\(9\)](#) of this section. This includes any deviations from your site-specific monitoring plan as required in [§ 63.7505\(d\)](#).

(1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from).

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in [§ 63.8\(c\)\(8\)](#).

(4) The date and time that each deviation started and stopped.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.



(6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) A brief description of the source for which there was a deviation.

(9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f-g) [Reserved]

(h) You must submit the reports according to the procedures specified in [paragraphs \(h\)\(1\) through \(3\)](#) of this section.

(1) Within 60 days after the date of completing each performance test (as defined in [§ 63.2](#)) required by this subpart, you must submit the results of the performance tests, including any fuel analyses, following the procedure specified in either [paragraph \(h\)\(1\)\(i\)](#) or [\(ii\)](#) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (<http://www.epa.gov/ttn/chief/ert/index.html>), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>.) Performance test data must be submitted in a file format generated through use of the EPA's ERT or an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in [§ 63.13](#).

(2) Within 60 days after the date of completing each CEMS performance evaluation (as defined in 63.2), you must submit the results of the performance evaluation following the procedure specified in either [paragraph \(h\)\(2\)\(i\)](#) or [\(ii\)](#) of this section.

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being transmitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in [§ 63.13](#).

(3) You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (<http://www.epa.gov/ttn/chief/cedri/index.html>), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in [§ 63.13](#). You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.

[[78 FR 7183](#), Jan. 31, 2013, as amended at [80 FR 72814](#), Nov. 20, 2015]

## **§ 63.7555 What records must I keep?**

(a) You must keep records according to [paragraphs \(a\)\(1\)](#) and [\(2\)](#) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in [§ 63.10\(b\)\(2\)\(xiv\)](#).

(2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in [§ 63.10\(b\)\(2\)\(viii\)](#).

(3) For units in the limited use subcategory, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating.

(b) For each CEMS, COMS, and continuous monitoring system you must keep records according to [paragraphs \(b\)\(1\)](#) through [\(5\)](#) of this section.

(1) Records described in [§ 63.10\(b\)\(2\)\(vii\)](#) through [\(xi\)](#).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in [§ 63.6\(h\)\(7\)\(i\)](#) and [\(ii\)](#).

(3) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in [§ 63.8\(d\)\(3\)](#).

(4) Request for alternatives to relative accuracy test for CEMS as required in [§ 63.8\(f\)\(6\)\(i\)](#).

(5) Records of the date and time that each deviation started and stopped.

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies to you.

(d) For each boiler or process heater subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must also keep the applicable records in [paragraphs \(d\)\(1\)](#) through [\(11\)](#) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to [§ 241.3\(b\)\(1\)](#) and [\(2\) of this chapter](#), you must keep a record that documents how the secondary material meets each of the legitimacy criteria under [§ 241.3\(d\)\(1\) of this chapter](#). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to [§ 241.3\(b\)\(4\) of this chapter](#), you must keep records as to how the operations that produced the fuel satisfy the definition of processing in [§ 241.2 of this chapter](#). If the fuel received a non-waste determination pursuant to the petition process submitted under [§ 241.3\(c\) of this chapter](#), you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per [§ 241.4 of this chapter](#), you must keep records documenting that the material is listed as a non-waste under [§ 241.4\(a\) of this chapter](#). Units exempt from the incinerator standards under section 129(g)(1) of the Clean Air

Act because they are qualifying facilities burning a homogeneous waste stream do not need to maintain the records described in this [paragraph \(d\)\(2\)](#).

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of [§ 63.7530](#), that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 16 of [§ 63.7530](#), that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(4) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of [§ 63.7530](#), that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 17 of [§ 63.7530](#), that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(5) If, consistent with [§ 63.7515\(b\)](#), you choose to stack test less frequently than annually, you must keep a record that documents that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit (or, in specific instances noted in Tables 1 and 2 or 11 through 13 to this subpart, less than the applicable emission limit), and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(6) Records of the occurrence and duration of each malfunction of the boiler or process heater, or of the associated air pollution control and monitoring equipment.

(7) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in [§ 63.7500\(a\)\(3\)](#), including corrective actions to restore the malfunctioning boiler or process heater, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(8) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of [§ 63.7530](#), that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance

testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 18 of [§ 63.7530](#), that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

(9) You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.

(10) You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

(11) For each startup period, for units selecting paragraph (2) of the definition of “startup” in [§ 63.7575](#) you must maintain records of the time that clean fuel combustion begins; the time when you start feeding fuels that are not clean fuels; the time when useful thermal energy is first supplied; and the time when the PM controls are engaged.

(12) If you choose to rely on paragraph (2) of the definition of “startup” in [§ 63.7575](#), for each startup period, you must maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and all hourly average CMS data (*e.g.*, CEMS, PM CPMS, COMS, ESP total secondary electric power input, scrubber pressure drop, scrubber liquid flow rate) collected during each startup period to confirm that the control devices are engaged. In addition, if compliance with the PM emission limit is demonstrated using a PM control device, you must maintain records as specified in [paragraphs \(d\)\(12\)\(i\) through \(iii\)](#) of this section.

(i) For a boiler or process heater with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.

(ii) For a boiler or process heater with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.

(iii) For a boiler or process heater with a wet scrubber needed for filterable PM control, record the scrubber's liquid flow rate and the pressure drop during each hour of startup.

(13) If you choose to use paragraph (2) of the definition of “startup” in [§ 63.7575](#) and you find that you are unable to safely engage and operate your PM control(s) within 1 hour of first firing of non-clean fuels, you may choose to rely on paragraph (1) of definition of “startup” in [§ 63.7575](#) or you may submit to the delegated permitting authority a request for a variance with the PM controls requirement, as described below.

- (i) The request shall provide evidence of a documented manufacturer-identified safety issue.
- (ii) The request shall provide information to document that the PM control device is adequately designed and sized to meet the applicable PM emission limit.
- (iii) In addition, the request shall contain documentation that:
  - (A) The unit is using clean fuels to the maximum extent possible to bring the unit and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel;
  - (B) The unit has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and
  - (C) Identifies with specificity the details of the manufacturer's statement of concern.
- (iv) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.
- (e) If you elect to average emissions consistent with [§ 63.7522](#), you must additionally keep a copy of the emission averaging implementation plan required in [§ 63.7522\(g\)](#), all calculations required under [§ 63.7522](#), including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with [§ 63.7541](#).
- (f) If you elect to use efficiency credits from energy conservation measures to demonstrate compliance according to [§ 63.7533](#), you must keep a copy of the Implementation Plan required in [§ 63.7533\(d\)](#) and copies of all data and calculations used to establish credits according to [§ 63.7533\(b\)](#), [\(c\)](#), and [\(f\)](#).
- (g) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must maintain monthly records (or at the frequency required by [§ 63.7540\(c\)](#)) of the calculations and results of the fuel specification for mercury in Table 6.
- (h) If you operate a unit in the unit designed to burn gas 1 subcategory that is subject to this subpart, and you use an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under this part, other gas 1 fuel, or gaseous fuel subject to another subpart of this part or part 60, 61, or 65, you must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.

## **§ 63.7560 In what form and how long must I keep my records?**

- (a) Your records must be in a form suitable and readily available for expeditious review, according to [§ 63.10\(b\)\(1\)](#).
- (b) As specified in [§ 63.10\(b\)\(1\)](#), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- (c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to [§ 63.10\(b\)\(1\)](#). You can keep the records off site for the remaining 3 years.

Other Requirements and Information

## **§ 63.7565 What parts of the General Provisions apply to me?**

Table 10 to this subpart shows which parts of the General Provisions in [§§ 63.1](#) through [63.15](#) apply to you.

## **§ 63.7570 Who implements and enforces this subpart?**

- (a) This subpart can be implemented and enforced by the EPA, or an Administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your state, local, or tribal agency.
- (b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under [40 CFR part 63, subpart E](#), the authorities listed in [paragraphs \(b\)\(1\)](#) through [\(4\)](#) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency, however, the EPA retains oversight of this subpart and can take enforcement actions, as appropriate.
  - (1) Approval of alternatives to the emission limits and work practice standards in [§ 63.7500\(a\)](#) and [\(b\)](#) under [§ 63.6\(g\)](#), except as specified in [§ 63.7555\(d\)\(13\)](#).
  - (2) Approval of major change to test methods in Table 5 to this subpart under [§ 63.7\(e\)\(2\)\(ii\)](#) and [\(f\)](#) and as defined in [§ 63.90](#), and alternative analytical methods requested under [§ 63.7521\(b\)\(2\)](#).
  - (3) Approval of major change to monitoring under [§ 63.8\(f\)](#) and as defined in [§ 63.90](#), and approval of alternative operating parameters under [§§ 63.7500\(a\)\(2\)](#) and [63.7522\(g\)\(2\)](#).



(4) Approval of major change to recordkeeping and reporting under [§ 63.10\(e\)](#) and as defined in [§ 63.90](#).

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7186](#), Jan. 31, 2013; [80 FR 72817](#), Nov. 20, 2015]

## **§ 63.7575 What definitions apply to this subpart?**

Terms used in this subpart are defined in the Clean Air Act, in [§ 63.2](#) (the General Provisions), and in this section as follows:

**10-day rolling average** means the arithmetic mean of the previous 240 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating. The 240 hours should be consecutive, but not necessarily continuous if operations were intermittent.

**30-day rolling average** means the arithmetic mean of the previous 720 hours of valid CO CEMS data. The 720 hours should be consecutive, but not necessarily continuous if operations were intermittent. For parameters other than CO, 30-day rolling average means either the arithmetic mean of all valid hours of data from 30 successive operating days or the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating.

**Annual capacity factor** means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

**Annual heat input** means the heat input for the 12 months preceding the compliance demonstration.

**Average annual heat input rate** means total heat input divided by the hours of operation for the 12 months preceding the compliance demonstration.

**Bag leak detection system** means a group of instruments that are capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.*, baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.



**Benchmark** means the fuel heat input for a boiler or process heater for the one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.

**Biodiesel** means a mono-alkyl ester derived from biomass and conforming to ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels (incorporated by reference, see [§ 63.14](#)).

**Biomass or bio-based solid fuel** means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue; wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

**Blast furnace gas fuel-fired boiler or process heater** means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total annual gas volume from blast furnace gas.

**Boiler** means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in [§ 241.3 of this chapter](#), is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers are excluded from this definition.

**Boiler system** means the boiler and associated components, such as, the feed water system, the combustion air system, the fuel system (including burners), blowdown system, combustion control systems, steam systems, and condensate return systems.

**Calendar year** means the period between January 1 and December 31, inclusive, for a given year.

**Clean dry biomass** means any biomass-based solid fuel that have not been painted, pigment-stained, or pressure treated, does not contain contaminants at concentrations not normally associated with virgin biomass materials and has a moisture content of less than 20 percent and is not a solid waste.

**Coal** means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by ASTM D388 (incorporated by reference, see [§ 63.14](#)), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of “coal” includes synthetic fuels derived from coal, including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

**Coal refuse** means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.

**Commercial/institutional boiler** means a boiler used in commercial establishments or institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, governmental buildings, hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

**Common stack** means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

**Cost-effective energy conservation measure** means a measure that is implemented to improve the energy efficiency of the boiler or facility that has a payback (return of investment) period of 2 years or less.

**Daily block average** means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown or downtime.

**Deviation.**

(1) **Deviation** means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

(2) A deviation is not always a violation.

**Dioxins/furans** means tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

**Distillate oil** means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see [§ 63.14](#)) or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see [§ 63.14](#)), kerosene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751-11b (incorporated by reference, see [§ 60.14](#)).

**Dry scrubber** means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

**Dutch oven** means a unit having a refractory-walled cell connected to a conventional boiler setting. Fuel materials are introduced through an opening in the roof of the dutch oven and burn in a pile on its floor. Fluidized bed boilers are not part of the dutch oven design category.

**Efficiency credit** means emission reductions above those required by this subpart. Efficiency credits generated may be used to comply with the emissions limits. Credits may come from pollution prevention projects that result in reduced fuel use by affected units. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to implementation of the energy conservation measures identified in the energy assessment.

**Electric utility steam generating unit (EGU)** means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be “capable of combusting” fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (e.g., coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2012.

**Electrostatic precipitator (ESP)** means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

**Energy assessment** means the following for the emission units covered by this subpart:

- (1) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of less than 0.3 trillion Btu (TBtu) per year will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (e.g., steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour on-site energy assessment.

(2) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of 0.3 to 1.0 TBtu/year will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 33 percent of the energy (*e.g.*, steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour on-site energy assessment.

(3) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity greater than 1.0 TBtu/year will be up to 24 on-site technical labor hours in length for the first TBtu/yr plus 8 on-site technical labor hours for every additional 1.0 TBtu/yr not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 20 percent of the energy (*e.g.*, steam, process heat, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use systems serving as the basis for the percent of affected boiler(s) and process heater(s) energy production in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (*e.g.*, product X manufacturing area; product Y drying area; Building Z).

***Energy management practices*** means the set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility.

***Energy management program*** means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

***Energy use system*** includes the following systems located on-site that use energy (steam, hot water, or electricity) provided by the affected boiler or process heater: process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air-conditioning systems; hot water systems; building envelop; and lighting; or other systems that use steam, hot water, process heat, or electricity provided by the affected boiler or process heater. Energy use systems are only those systems using energy clearly produced by affected boilers and process heaters.

***Equivalent*** means the following only as this term is used in Table 6 to this subpart:

- (1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.
- (2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.
- (3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.
- (4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.
- (5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining metals (especially the mercury, selenium, or arsenic) using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing these metals. On the other hand, if metals analysis is done on an “as received” basis, a separate aliquot can be dried to determine moisture content and the metals concentration mathematically adjusted to a dry basis.
- (6) An equivalent pollutant (mercury, HCl) determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for the pollutant and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 6 to this subpart for the same purpose.

***Fabric filter*** means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse. A fabric filter is a dry control system.

***Federally enforceable*** means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of [40 CFR parts 60, 61, 63, and 65](#), requirements within any applicable state implementation plan, and any permit requirements established under [40 CFR 52.21](#) or under [40 CFR 51.18](#) and [40 CFR 51.24](#).

***Fluidized bed boiler*** means a boiler utilizing a fluidized bed combustion process that is not a pulverized coal boiler.

***Fluidized bed boiler with an integrated fluidized bed heat exchanger*** means a boiler utilizing a fluidized bed combustion where the entire tube surface area is located outside of the furnace section at the exit of the cyclone section and exposed to the flue gas stream for conductive heat transfer. This design applies only to boilers in the unit designed to burn coal/solid fossil fuel subcategory that fire coal refuse.

**Fluidized bed combustion** means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

**Fossil fuel** means natural gas, oil, coal, and any form of solid, liquid, or gaseous fuel derived from such material.

**Fuel cell** means a boiler type in which the fuel is dropped onto suspended fixed grates and is fired in a pile. The refractory-lined fuel cell uses combustion air preheating and positioning of secondary and tertiary air injection ports to improve boiler efficiency. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, and suspension burners are not part of the fuel cell subcategory.

**Fuel type** means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

**Gaseous fuel** includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas and process gases that are regulated under another subpart of this [part](#), or [part 60](#), [part 61](#), or [part 65 of this chapter](#), are exempted from this definition.

**Heat input** means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

**Heavy liquid** includes residual oil and any other liquid fuel not classified as a light liquid.

**Hourly average** means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

**Hot water heater** means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass/bio-based solid fuel and is withdrawn for use external to the vessel. Hot water boilers (i.e., not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 MMBtu/hr heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on demand hot water.

**Hybrid suspension grate boiler** means a boiler designed with air distributors to spread the fuel material over the entire width and depth of the boiler combustion zone. The biomass fuel combusted in these units exceeds a moisture content of 40 percent on an as-fired annual heat

input basis as demonstrated by monthly fuel analysis. The drying and much of the combustion of the fuel takes place in suspension, and the combustion is completed on the grate or floor of the boiler. Fluidized bed, dutch oven, and pile burner designs are not part of the hybrid suspension grate boiler design category.

**Industrial boiler** means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

**Light liquid** includes distillate oil, biodiesel, or vegetable oil.

**Limited-use boiler or process heater** means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels and has a federally enforceable annual capacity factor of no more than 10 percent.

**Liquid fuel** includes, but is not limited to, light liquid, heavy liquid, any form of liquid fuel derived from petroleum, used oil, liquid biofuels, biodiesel, and vegetable oil.

**Load fraction** means the actual heat input of a boiler or process heater divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (*e.g.*, for 50 percent load the load fraction is 0.5). For boilers and process heaters that co-fire natural gas or refinery gas with a solid or liquid fuel, the load fraction is determined by the actual heat input of the solid or liquid fuel divided by heat input of the solid or liquid fuel fired during the performance test (*e.g.*, if the performance test was conducted at 100 percent solid fuel firing, for 100 percent load firing 50 percent solid fuel and 50 percent natural gas the load fraction is 0.5).

**Major source for oil and natural gas production facilities**, as used in this subpart, shall have the same meaning as in [§ 63.2](#), except that:

- (1) Emissions from any oil or gas exploration or production well (with its associated equipment, as defined in this section), and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;
- (2) Emissions from processes, operations, or equipment that are not part of the same facility, as defined in this section, shall not be aggregated; and
- (3) For facilities that are production field facilities, only HAP emissions from glycol dehydration units and storage vessels with the potential for flash emissions shall be aggregated for a major source determination. For facilities that are not production field facilities, HAP emissions from all HAP emission units shall be aggregated for a major source determination.

**Metal process furnaces** are a subcategory of process heaters, as defined in this subpart, which include natural gas-fired annealing furnaces, preheat furnaces, reheat furnaces, aging furnaces, heat treat furnaces, and homogenizing furnaces.

**Million Btu (MMBtu)** means one million British thermal units.

**Minimum activated carbon injection rate** means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

**Minimum oxygen level** means the lowest hourly average oxygen level measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

**Minimum pressure drop** means the lowest hourly average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

**Minimum scrubber effluent pH** means the lowest hourly average sorbent liquid pH measured at the inlet to the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

**Minimum scrubber liquid flow rate** means the lowest hourly average liquid flow rate (e.g., to the PM scrubber or to the acid gas scrubber) measured according to Table 7 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

**Minimum scrubber pressure drop** means the lowest hourly average scrubber pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

**Minimum sorbent injection rate** means:

- (1) The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits; or
- (2) For fluidized bed combustion not using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

**Minimum total secondary electric power** means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

**Natural gas** means:



(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined in ASTM D1835 (incorporated by reference, see [§ 63.14](#)); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or

(4) Propane or propane derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure  $C_3H_8$ .

**Opacity** means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

**Operating day** means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler or process heater unit. It is not necessary for fuel to be combusted for the entire 24-hour period. For calculating rolling average emissions, an operating day does not include the hours of operation during startup or shutdown.

**Other combustor** means a unit designed to burn solid fuel that is not classified as a dutch oven, fluidized bed, fuel cell, hybrid suspension grate boiler, pulverized coal boiler, stoker, sloped grate, or suspension boiler as defined in this subpart.

**Other gas 1 fuel** means a gaseous fuel that is not natural gas or refinery gas and does not exceed a maximum concentration of 40 micrograms/cubic meters of mercury.

**Oxygen analyzer system** means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler or process heater, firebox, or other appropriate location. This definition includes oxygen trim systems. The source owner or operator must install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

**Oxygen trim system** means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating load range. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air controller or draft controller.

**Particulate matter (PM)** means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

**Period of gas curtailment or supply interruption** means a period of time during which the supply of gaseous fuel to an affected boiler or process heater is restricted or halted for reasons

beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

***Pile burner*** means a boiler design incorporating a design where the anticipated biomass fuel has a high relative moisture content. Grates serve to support the fuel, and underfire air flowing up through the grates provides oxygen for combustion, cools the grates, promotes turbulence in the fuel bed, and fires the fuel. The most common form of pile burning is the dutch oven.

***Process heater*** means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. A device combusting solid waste, as defined in [§ 241.3 of this chapter](#), is not a process heater unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves. Waste heat process heaters are excluded from this definition.

***Pulverized coal boiler*** means a boiler in which pulverized coal or other solid fossil fuel is introduced into an air stream that carries the coal to the combustion chamber of the boiler where it is fired in suspension.

***Qualified energy assessor*** means:

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

- (i) Boiler combustion management.
- (ii) Boiler thermal energy recovery, including
  - (A) Conventional feed water economizer,
  - (B) Conventional combustion air preheater, and
  - (C) Condensing economizer.
- (iii) Boiler blowdown thermal energy recovery.
- (iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vi) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

**Refinery gas** means any gas that is generated at a petroleum refinery and is combusted. Refinery gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Refinery gas includes gases generated from other facilities when that gas is combined and combusted in any proportion with gas generated at a refinery.

**Regulated gas stream** means an offgas stream that is routed to a boiler or process heater for the purpose of achieving compliance with a standard under another subpart of this [part](#) or [part 60](#), [part 61](#), or [part 65 of this chapter](#).

**Residential boiler** means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (e.g., university campus, military base, church grounds) or commercial/industrial facility (e.g., farm) used primarily to provide heat and/or hot water for:

(1) A dwelling containing four or fewer families; or

(2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.

**Residual oil** means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society of Testing and Materials in ASTM D396-10 (incorporated by reference, [see § 63.14\(b\)](#)).

**Responsible official** means responsible official as defined in [§ 70.2](#).

**Rolling average** means the average of all data collected during the applicable averaging period. For demonstration of compliance with a CO CEMS-based emission limit based on CO concentration a 30-day (10-day) rolling average is comprised of the average of all the hourly average concentrations over the previous 720 (240) operating hours calculated each operating day. To demonstrate compliance on a 30-day rolling average basis for parameters other than CO, you must indicate the basis of the 30-day rolling average period you are using for compliance, as discussed in [§ 63.7545\(e\)\(2\)\(iii\)](#). If you indicate the 30 operating day basis, you must calculate a new average value each operating day and shall include the measured hourly values for the preceding 30 operating days. If you select the 720 operating hours basis, you must average of all the hourly average concentrations over the previous 720 operating hours calculated each operating day.

**Secondary material** means the material as defined in [§ 241.2 of this chapter](#).

**Shutdown** means the period in which cessation of operation of a boiler or process heater is initiated for any purpose. Shutdown begins when the boiler or process heater no longer supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer supplies useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in the boiler or process heater.

**Sloped grate** means a unit where the solid fuel is fed to the top of the grate from where it slides downwards; while sliding the fuel first dries and then ignites and burns. The ash is deposited at the bottom of the grate. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a sloped grate design.

**Solid fossil fuel** includes, but is not limited to, coal, coke, petroleum coke, and tire derived fuel.

**Solid fuel** means any solid fossil fuel or biomass or bio-based solid fuel.

**Startup** means:

(1) Either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the

useful thermal energy from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose, or

(2) The period in which operation of a boiler or process heater is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier.

***Steam output*** means:

(1) For a boiler that produces steam for process or heating only (no power generation), the energy content in terms of MMBtu of the boiler steam output,

(2) For a boiler that cogenerates process steam and electricity (also known as combined heat and power), the total energy output, which is the sum of the energy content of the steam exiting the turbine and sent to process in MMBtu and the energy of the electricity generated converted to MMBtu at a rate of 10,000 Btu per kilowatt-hour generated (10 MMBtu per megawatt-hour), and

(3) For a boiler that generates only electricity, the alternate output-based emission limits would be the appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input (lb per MWh).

(4) For a boiler that performs multiple functions and produces steam to be used for any combination of paragraphs (1), (2), and (3) of this definition that includes electricity generation of paragraph (3) of this definition, the total energy output, in terms of MMBtu of steam output, is the sum of the energy content of steam sent directly to the process and/or used for heating ( $S_1$ ), the energy content of turbine steam sent to process plus energy in electricity according to paragraph (2) of this definition ( $S_2$ ), and the energy content of electricity generated by a electricity only turbine as paragraph (3) of this definition ( $MW_{(3)}$ ) and would be calculated using Equation 21 of this section. In the case of boilers supplying steam to one or more common heaters,  $S_1$ ,  $S_2$ , and  $MW_{(3)}$  for each boiler would be calculated based on the its (steam energy) contribution (fraction of total steam energy) to the common heater.

$$SO_M = S_1 + S_2 + (MW_{(3)} \times CF_n) \quad (\text{Eq. 21})$$

Where:

$SO_M$  = Total steam output for multi-function boiler, MMBtu

$S_1$  = Energy content of steam sent directly to the process and/or used for heating, MMBtu

$S_2$  = Energy content of turbine steam sent to the process plus energy in electricity according to (2) above, MMBtu

$MW_{(3)}$  = Electricity generated according to paragraph (3) of this definition, MWh

CFn = Conversion factor for the appropriate subcategory for converting electricity generated according to paragraph (3) of this definition to equivalent steam energy, MMBtu/MWh

CFn for emission limits for boilers in the unit designed to burn solid fuel subcategory = 10.8

CFn PM and CO emission limits for boilers in one of the subcategories of units designed to burn coal = 11.7

CFn PM and CO emission limits for boilers in one of the subcategories of units designed to burn biomass = 12.1

CFn for emission limits for boilers in one of the subcategories of units designed to burn liquid fuel = 11.2

CFn for emission limits for boilers in the unit designed to burn gas 2 (other) subcategory = 6.2

**Stoker** means a unit consisting of a mechanically operated fuel feeding mechanism, a stationary or moving grate to support the burning of fuel and admit under-grate air to the fuel, an overfire air system to complete combustion, and an ash discharge system. This definition of stoker includes air swept stokers. There are two general types of stokers: Underfeed and overfeed. Overfeed stokers include mass feed and spreader stokers. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a stoker design.

**Stoker/sloped grate/other unit designed to burn kiln dried biomass** means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and is not in the stoker/sloped grate/other units designed to burn wet biomass subcategory.

**Stoker/sloped grate/other unit designed to burn wet biomass** means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and any of the biomass/bio-based solid fuel combusted in the unit exceeds 20 percent moisture on an annual heat input basis.

**Suspension burner** means a unit designed to fire dry biomass/biobased solid particles in suspension that are conveyed in an airstream to the furnace like pulverized coal. The combustion of the fuel material is completed on a grate or floor below. The biomass/biobased fuel combusted in the unit shall not exceed 20 percent moisture on an annual heat input basis. Fluidized bed, dutch oven, pile burner, and hybrid suspension grate units are not part of the suspension burner subcategory.

**Temporary boiler** means any gaseous or liquid fuel boiler or process heater that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler or process heater is not a temporary boiler or process heater if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The boiler or process heater or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler or process heater that replaces a temporary boiler or process heater at a location and performs the same or similar function will be included in calculating the consecutive time period.
- (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
- (4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, process heat, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

**Total selected metals (TSM)** means the sum of the following metallic hazardous air pollutants: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

**Traditional fuel** means the fuel as defined in [§ 241.2 of this chapter](#).

**Tune-up** means adjustments made to a boiler or process heater in accordance with the procedures outlined in [§ 63.7540\(a\)\(10\)](#).

**Ultra low sulfur liquid fuel** means a distillate oil that has less than or equal to 15 ppm sulfur.

**Unit designed to burn biomass/bio-based solid subcategory** includes any boiler or process heater that burns at least 10 percent biomass or bio-based solids on an annual heat input basis in combination with solid fossil fuels, liquid fuels, or gaseous fuels.

**Unit designed to burn coal/solid fossil fuel subcategory** includes any boiler or process heater that burns any coal or other solid fossil fuel alone or at least 10 percent coal or other solid fossil fuel on an annual heat input basis in combination with liquid fuels, gaseous fuels, or less than 10 percent biomass and bio-based solids on an annual heat input basis.

**Unit designed to burn gas 1 subcategory** includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition.

Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition.

***Unit designed to burn gas 2 (other) subcategory*** includes any boiler or process heater that is not in the unit designed to burn gas 1 subcategory and burns any gaseous fuels either alone or in combination with less than 10 percent coal/solid fossil fuel, and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, and no liquid fuels. Gaseous fuel boilers and process heaters that are not in the unit designed to burn gas 1 subcategory and that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that are not in the unit designed to burn gas 1 subcategory and that burn liquid fuel during periods of gas curtailment or gas supply interruption of any duration are also included in this definition.

***Unit designed to burn heavy liquid subcategory*** means a unit in the unit designed to burn liquid subcategory where at least 10 percent of the heat input from liquid fuels on an annual heat input basis comes from heavy liquids.

***Unit designed to burn light liquid subcategory*** means a unit in the unit designed to burn liquid subcategory that is not part of the unit designed to burn heavy liquid subcategory.

***Unit designed to burn liquid subcategory*** includes any boiler or process heater that burns any liquid fuel, but less than 10 percent coal/solid fossil fuel and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, either alone or in combination with gaseous fuels. Units in the unit design to burn gas 1 or unit designed to burn gas 2 (other) subcategories that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year are not included in this definition. Units in the unit design to burn gas 1 or unit designed to burn gas 2 (other) subcategories during periods of gas curtailment or gas supply interruption of any duration are also not included in this definition.

***Unit designed to burn liquid fuel that is a non-continental unit*** means an industrial, commercial, or institutional boiler or process heater meeting the definition of the unit designed to burn liquid subcategory located in the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

***Unit designed to burn solid fuel subcategory*** means any boiler or process heater that burns only solid fuels or at least 10 percent solid fuel on an annual heat input basis in combination with liquid fuels or gaseous fuels.

***Useful thermal energy*** means energy (*i.e.*, steam, hot water, or process heat) that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the affected boiler or process heater.

***Vegetable oil*** means oils extracted from vegetation.



**Voluntary Consensus Standards or VCS** mean technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428-B2959, (800) 262-1373, <http://www.astm.org>), American Society of Mechanical Engineers (ASME ASME, Three Park Avenue, New York, NY 10016-5990, (800) 843-2763, <http://www.asme.org>), International Standards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, + 41 22 749 01 11, <http://www.iso.org/iso/home.htm>), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 <http://www.stadards.org.au>), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, + 44 (0)20 8996 9001, <http://www.bsigroup.com>), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, <http://www.csa.ca>), European Committee for Standardization (CEN CENELEC Management Centre Avenue Marnix 17 B-1000 Brussels, Belgium + 32 2 550 08 11, <http://www.cen.eu/cen>), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, + 49 211 6214-230, <http://www.vdi.eu>). The types of standards that are not considered VCS are standards developed by: The United States, *e.g.*, California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, *e.g.*, Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

**Waste heat boiler** means a device that recovers normally unused energy (*i.e.*, hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (*e.g.*, thermal oxidizer, kiln, furnace) or power (*e.g.*, combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

**Waste heat process heater** means an enclosed device that recovers normally unused energy (*i.e.*, hot exhaust gas) and converts it to usable heat. Waste heat process heaters are also referred to as recuperative process heaters. This definition includes both fired and unfired waste heat process heaters.

**Wet scrubber** means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

**Work practice standard** means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

[[78 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7163](#), Jan. 31, 2013; [80 FR 72817](#), Nov. 20, 2015]

## Table 1 to Subpart DDDDD of Part 63 - Emission Limits for New or Reconstructed Boilers and Process Heaters

As stated in [§ 63.7500](#), you must comply with the following applicable emission limits:

[Units with heat input capacity of 10 million Btu per hour or greater]

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . . | Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .    | Using this specified sampling volume or test run duration . . .   |
|---|----------------------------------|---|---|---|
| 1. Units in all subcategories designed to burn solid fuel.    | a. HCl                           | 2.2E-02 lb per MMBtu of heat input  | 2.5E-02 lb per MMBtu of steam output or 0.28 lb per MWh   | For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run. For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 4 dscm. |
|   | b. Mercury                       | 8.0E-07 <sup>a</sup> lb per MMBtu of heat input   | 8.7E-07 <sup>a</sup> lb per MMBtu of steam output or 1.1E-05 <sup>a</sup> lb per MWh  |   |
| 2. Units designed to burn coal/solid fossil fuel              | a. Filterable PM (or TSM)        | 1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)                           | 1.1E-03 lb per MMBtu of steam output or 1.4E-02 lb per MWh; or (2.7E-05 lb per MMBtu of steam output or 2.9E-04 lb per MWh) | Collect a minimum of 3 dscm per run.  |
| 3. Pulverized coal boilers designed to                        | a. Carbon monoxide               | 130 ppm by volume on a dry basis  | 0.11 lb per MMBtu of steam output or  | 1 hr minimum sampling time.   |

| <b>If your boiler or process heater is in this subcategory . . .</b>                             | <b>For the following pollutants . .</b> | <b>The emissions must not exceed the following emission limits, except during startup and shutdown . . .</b>   | <b>Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .</b> | <b>Using this specified sampling volume or test run duration . . .</b> |
|--|---|--|---|--|
| burn coal/solid fossil fuel  | (CO) (or CEMS)                          | corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 30-day rolling average)<br>130 ppm by volume on a dry basis | 1.4 lb per MWh; 3-run average   |  |
| 4. Stokers/others designed to burn coal/solid fossil fuel  | a. CO (or CEMS)                         | corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 30-day rolling average)<br>130 ppm by volume on a dry basis | 0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average  | 1 hr minimum sampling time.  |
| 5. Fluidized bed units designed to burn coal/solid fossil fuel                                   | a. CO (or CEMS)                         | corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 30-day rolling average)<br>140 ppm by volume on a dry basis | 0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average  | 1 hr minimum sampling time.  |
| 6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel | a. CO (or CEMS)                         | corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 30-day rolling average)                                     | 1.2E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average   | 1 hr minimum sampling time.  |
| 7. Stokers/sloped grate/others   | a. CO (or CEMS)                         | 620 ppm by volume on a dry basis   | 5.8E-01 lb per MMBtu of steam   | 1 hr minimum sampling time.  |

| If your boiler or process heater is in this subcategory . . .           | For the following pollutants . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . .   | Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .    | Using this specified sampling volume or test run duration . . . |
|---|----------------------------------|---|---|---|
| designed to burn wet biomass fuel                                       |                                  | corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 30-day rolling average)              | output or 6.8 lb per MWh; 3-run average   |   |
|   | b. Filterable PM (or TSM)        | 3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input)   | 3.5E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (2.7E-05 lb per MMBtu of steam output or 3.7E-04 lb per MWh) | Collect a minimum of 2 dscm per run.                            |
| 8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel | a. CO                            | 460 ppm by volume on a dry basis corrected to 3 percent oxygen  | 4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh  | 1 hr minimum sampling time.                                     |
|   | b. Filterable PM (or TSM)        | 3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)   | 3.5E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (4.2E-03 lb per MMBtu of steam output or 5.6E-02 lb per MWh) | Collect a minimum of 2 dscm per run.                            |
| 9. Fluidized bed units designed to burn biomass/bio-based solids        | a. CO (or CEMS)                  | 230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 30- | 2.2E-01 lb per MMBtu of steam output or 2.6 lb per MWh; 3-run average   | 1 hr minimum sampling time.                                     |

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . . | Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . . | Using this specified sampling volume or test run duration . . . |
|---|----------------------------------|---|--|---|
|---|----------------------------------|---|--|---|

day rolling average)

|  |                           |   |  |                                      |
|--|---------------------------|---|--|--------------------------------------|
|  | b. Filterable PM (or TSM) | 9.8E-03 lb per MMBtu of heat input; or (8.3E-05 <sup>a</sup> lb per MMBtu of heat input)  | 1.2E-02 lb per MMBtu of steam output or 0.14 lb per MWh; or (1.1E-04 <sup>a</sup> lb per MMBtu of steam output or 1.2E-03 <sup>a</sup> lb per MWh) | Collect a minimum of 3 dscm per run. |
| 10. Suspension burners designed to burn biomass/bio-based solids       | a. CO (or CEMS)           | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 10-day rolling average) | 1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average   | 1 hr minimum sampling time.          |
|  | b. Filterable PM (or TSM) | 3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)   | 3.1E-02 lb per MMBtu of steam output or 4.2E-01 lb per MWh; or (6.6E-03 lb per MMBtu of steam output or 9.1E-02 lb per MWh)                        | Collect a minimum of 2 dscm per run. |
| 11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids | a. CO (or CEMS)           | 330 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 10-day rolling average)     | 3.5E-01 lb per MMBtu of steam output or 3.6 lb per MWh; 3-run average  | 1 hr minimum sampling time.          |

| If your boiler or process heater is in this subcategory . . .                | For the following pollutants . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . .   | Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .    | Using this specified sampling volume or test run duration . . . |
|--|----------------------------------|---|---|---|
| 12. Fuel cell units designed to burn biomass/bio-based solids                | b. Filterable PM (or TSM)        | 3.2E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)   | 4.3E-03 lb per MMBtu of steam output or 4.5E-02 lb per MWh; or (5.2E-05 lb per MMBtu of steam output or 5.5E-04 lb per MWh) | Collect a minimum of 3 dscm per run.                            |
|  | a. CO                            | 910 ppm by volume on a dry basis corrected to 3 percent oxygen  | 1.1 lb per MMBtu of steam output or 1.0E + 01 lb per MWh  | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)        | 2.0E-02 lb per MMBtu of heat input; or (2.9E-05 <sup>a</sup> lb per MMBtu of heat input)  | 3.0E-02 lb per MMBtu of steam output or 2.8E-01 lb per MWh; or (5.1E-05 lb per MMBtu of steam output or 4.1E-04 lb per MWh) | Collect a minimum of 2 dscm per run.                            |
| 13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids | a. CO (or CEMS)                  | 1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>d</sup> 30-day rolling average) | 1.4 lb per MMBtu of steam output or 12 lb per MWh; 3-run average  | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)        | 2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input)   | 3.3E-02 lb per MMBtu of steam output or 3.7E-01 lb per MWh; or (5.5E-04 lb per MMBtu of steam                               | Collect a minimum of 3 dscm per run.                            |

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . . | Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .    | Using this specified sampling volume or test run duration . . .   |
|---|----------------------------------|---|---|---|
|   |                                  |   | output or 6.2E-03 lb per MWh)   |   |
| 14. Units designed to burn liquid fuel                        | a. HCl                           | 4.4E-04 lb per MMBtu of heat input  | 4.8E-04 lb per MMBtu of steam output or 6.1E-03 lb per MWh  | For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.<br>For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 4 dscm. |
|   | b. Mercury                       | 4.8E-07 <sup>a</sup> lb per MMBtu of heat input   | 5.3E-07 <sup>a</sup> lb per MMBtu of steam output or 6.7E-06 <sup>a</sup> lb per MWh  |   |
| 15. Units designed to burn heavy liquid fuel                  | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average                         | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average  | 1 hr minimum sampling time.   |
|   | b. Filterable PM (or TSM)        | 1.3E-02 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input)                           | 1.5E-02 lb per MMBtu of steam output or 1.8E-01 lb per MWh; or (8.2E-05 lb per MMBtu of steam output or 1.1E-03 lb per MWh) | Collect a minimum of 3 dscm per run.  |
| 16. Units designed to burn light liquid fuel                  | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen  | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh   | 1 hr minimum sampling time.   |
|   | b. Filterable                    | 1.1E-03 <sup>a</sup> lb per   | 1.2E-03 <sup>a</sup> lb per   | Collect a minimum   |

| If your boiler or process heater is in this subcategory . . .         | For the following pollutants . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . . | Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .    | Using this specified sampling volume or test run duration . . .                                  |
|---|----------------------------------|---|---|--|
|   | PM (or TSM)                      | MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)  | MMBtu of steam output or 1.6E-02 <sup>a</sup> lb per MWh; or (3.2E-05 lb per MMBtu of steam output or 4.0E-04 lb per MWh)   | of 3 dscm per run.   |
| 17. Units designed to burn liquid fuel that are non-continental units | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test     | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average  | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)        | 2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)                           | 2.5E-02 lb per MMBtu of steam output or 3.2E-01 lb per MWh; or (9.4E-04 lb per MMBtu of steam output or 1.2E-02 lb per MWh) | Collect a minimum of 4 dscm per run.   |
| 18. Units designed to burn gas 2 (other) gases                        | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen  | 0.16 lb per MMBtu of steam output or 1.0 lb per MWh   | 1 hr minimum sampling time.  |
|   | b. HCl                           | 1.7E-03 lb per MMBtu of heat input  | 2.9E-03 lb per MMBtu of steam output or 1.8E-02 lb per MWh  | For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run. |
|   | c. Mercury                       | 7.9E-06 lb per MMBtu of heat input  | 1.4E-05 lb per MMBtu of steam output or 8.3E-05 lb per MWh  | For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as      |



| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . . | Or the emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .    | Using this specified sampling volume or test run duration . . .   |
|---|----------------------------------|---|---|---|
|   | d. Filterable PM (or TSM)        | 6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)                           | 1.2E-02 lb per MMBtu of steam output or 7.0E-02 lb per MWh; or (3.5E-04 lb per MMBtu of steam output or 2.2E-03 lb per MWh) | specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 3 dscm.<br><br>Collect a minimum of 3 dscm per run. |

<sup>a</sup> If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to [§ 63.7515](#) if all of the other provisions of [§ 63.7515](#) are met. For all other pollutants that do not contain a footnote “a”, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

<sup>b</sup> Incorporated by reference, see [§ 63.14](#).

<sup>c</sup> If your affected source is a new or reconstructed affected source that commenced construction or reconstruction after June 4, 2010, and before April 1, 2013, you may comply with the emission limits in Tables 11, 12 or 13 to this subpart until January 31, 2016. On and after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

<sup>d</sup> An owner or operator may request an alternative test method under [§ 63.7 of this chapter](#), in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO<sub>2</sub> correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO<sub>2</sub> being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

[[78 FR 7193](#), Jan. 31, 2013, as amended at [80 FR 72819](#), Nov. 20, 2015]

## Table 2 to Subpart DDDDD of Part 63 - Emission Limits for Existing Boilers and Process Heaters

As stated in [§ 63.7500](#), you must comply with the following applicable emission limits:

[Units with heat input capacity of 10 million Btu per hour or greater]

| If your boiler or process heater is in this subcategory ...        | For the following pollutants ... | The emissions must not exceed the following emission limits, except during startup and shutdown ... | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown ...         | Using this specified sampling volume or test run duration ...  |
|--|----------------------------------|---|---|--|
| 1. Units in all subcategories designed to burn solid fuel          | a. HCl                           | 2.2E-02 lb per MMBtu of heat input  | 2.5E-02 lb per MMBtu of steam output or 0.27 lb per MWh   | For M26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of 120 liters per run. For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 3 dscm. |
|  | b. Mercury                       | 5.7E-06 lb per MMBtu of heat input  | 6.4E-06 lb per MMBtu of steam output or 7.3E-05 lb per MWh  |  |
| 2. Units design to burn coal/solid fossil fuel                     | a. Filterable PM (or TSM)        | 4.0E-02 lb per MMBtu of heat input; or (5.3E-05 lb per MMBtu of heat input)                         | 4.2E-02 lb per MMBtu of steam output or 4.9E-01 lb per MWh; or (5.6E-05 lb per MMBtu of steam output or 6.5E-04 lb per MWh) | Collect a minimum of 2 dscm per run.   |
| 3. Pulverized coal boilers designed to burn coal/solid fossil fuel | a. CO (or CEMS)                  | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run                               | 0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average  | 1 hr minimum sampling time.  |

| <b>If your boiler or process heater is in this subcategory ...</b> | <b>For the following pollutants ...</b> | <b>The emissions must not exceed the following emission limits, except during startup and shutdown ...</b> | <b>The emissions must not exceed the following alternative output-based limits, except during startup and shutdown ...</b> | <b>Using this specified sampling volume or test run duration ...</b> |
|--|---|--|--|--|
|--|---|--|--|--|

|  |                 |  |   |                             |
|--|-----------------|--|---|-----------------------------|
| 4. Stokers/others designed to burn coal/solid fossil fuel  | a. CO (or CEMS) | average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)<br>160 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)<br>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)<br>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 0.14 lb per MMBtu of steam output or 1.7 lb per MWh; 3-run average    | 1 hr minimum sampling time. |
| 5. Fluidized bed units designed to burn coal/solid fossil fuel                                   | a. CO (or CEMS) | average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)<br>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)<br>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)  | 0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average    | 1 hr minimum sampling time. |
| 6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel | a. CO (or CEMS) | average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)<br>130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)<br>140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)  | 1.3E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average | 1 hr minimum sampling time. |
| 7. Stokers/sloped grate/others designed to burn wet biomass fuel                                 | a. CO (or CEMS) | 1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run  | 1.4 lb per MMBtu of steam output or 17 lb per MWh; 3-run average      | 1 hr minimum sampling time. |

| If your boiler or process heater is in this subcategory ...             | For the following pollutants ... | The emissions must not exceed the following emission limits, except during startup and shutdown ...   | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown ...         | Using this specified sampling volume or test run duration ... |
|---|----------------------------------|---|---|---|
|   |                                  | average; or (720 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)   |   |   |
|   | b. Filterable PM (or TSM)        | 3.7E-02 lb per MMBtu of heat input; or (2.4E-04 lb per MMBtu of heat input)   | 4.3E-02 lb per MMBtu of steam output or 5.2E-01 lb per MWh; or (2.8E-04 lb per MMBtu of steam output or 3.4E-04 lb per MWh) | Collect a minimum of 2 dscm per run.                          |
| 8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel | a. CO                            | 460 ppm by volume on a dry basis corrected to 3 percent oxygen  | 4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh  | 1 hr minimum sampling time.                                   |
|   | b. Filterable PM (or TSM)        | 3.2E-01 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)   | 3.7E-01 lb per MMBtu of steam output or 4.5 lb per MWh; or (4.6E-03 lb per MMBtu of steam output or 5.6E-02 lb per MWh)     | Collect a minimum of 1 dscm per run.                          |
| 9. Fluidized bed units designed to burn biomass/bio-based solid         | a. CO (or CEMS)                  | 470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 4.6E-01 lb per MMBtu of steam output or 5.2 lb per MWh; 3-run average   | 1 hr minimum sampling time.                                   |
|   | b.                               | 1.1E-01 lb per  | 1.4E-01 lb per  | Collect a minimum   |

| If your boiler or process heater is in this subcategory ...           | For the following pollutants ... | The emissions must not exceed the following emission limits, except during startup and shutdown ...   | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown ...         | Using this specified sampling volume or test run duration ... |
|---|----------------------------------|---|---|---|
|   | Filterable PM (or TSM)           | MMBtu of heat input; or (1.2E-03 lb per MMBtu of heat input)  | MMBtu of steam output or 1.6 lb per MWh; or (1.5E-03 lb per MMBtu of steam output or 1.7E-02 lb per MWh)                    | of 1 dscm per run.  |
| 10. Suspension burners designed to burn biomass/bio-based solid       | a. CO (or CEMS)                  | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average) | 1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average  | 1 hr minimum sampling time.                                   |
|   | b. Filterable PM (or TSM)        | 5.1E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)   | 5.2E-02 lb per MMBtu of steam output or 7.1E-01 lb per MWh; or (6.6E-03 lb per MMBtu of steam output or 9.1E-02 lb per MWh) | Collect a minimum of 2 dscm per run.                          |
| 11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solid | a. CO (or CEMS)                  | 770 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)     | 8.4E-01 lb per MMBtu of steam output or 8.4 lb per MWh; 3-run average   | 1 hr minimum sampling time.                                   |
|   | b. Filterable                    | 2.8E-01 lb per MMBtu of heat input;   | 3.9E-01 lb per MMBtu of steam   | Collect a minimum of 1 dscm per run.                          |

| If your boiler or process heater is in this subcategory . . .              | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . .   | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . .       | Using this specified sampling volume or test run duration . . . |
|--|------------------------------------|---|---|---|
|  | PM (or TSM)                        | or (2.0E-03 lb per MMBtu of heat input)   | output or 3.9 lb per MWh; or (2.8E-03 lb per MMBtu of steam output or 2.8E-02 lb per MWh)                                   |   |
| 12. Fuel cell units designed to burn biomass/bio-based solid               | a. CO                              | 1,100 ppm by volume on a dry basis corrected to 3 percent oxygen  | 2.4 lb per MMBtu of steam output or 12 lb per MWh   | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)          | 2.0E-02 lb per MMBtu of heat input; or (5.8E-03 lb per MMBtu of heat input)   | 5.5E-02 lb per MMBtu of steam output or 2.8E-01 lb per MWh; or (1.6E-02 lb per MMBtu of steam output or 8.1E-02 lb per MWh) | Collect a minimum of 2 dscm per run.                            |
| 13. Hybrid suspension grate units designed to burn biomass/bio-based solid | a. CO (or CEMS)                    | 3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 3.5 lb per MMBtu of steam output or 39 lb per MWh; 3-run average  | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)          | 4.4E-01 lb per MMBtu of heat input; or (4.5E-04 lb per MMBtu of heat input)   | 5.5E-01 lb per MMBtu of steam output or 6.2 lb per MWh; or (5.7E-04 lb per MMBtu of steam output or 6.3E-03 lb per MWh)     | Collect a minimum of 1 dscm per run.                            |
| 14. Units designed   | a. HCl                             | 1.1E-03 lb per  | 1.4E-03 lb per  | For M26A, collect a   |

| If your boiler or process heater is in this subcategory ... | For the following pollutants ... | The emissions must not exceed the following emission limits, except during startup and shutdown ... | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown ...         | Using this specified sampling volume or test run duration ...  |
|---|----------------------------------|---|---|--|
| to burn liquid fuel   |                                  | MMBtu of heat input   | MMBtu of steam output or 1.6E-02 lb per MWh   | minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run. For M29, collect a minimum of 3 dscm per run; for M30A or M30B collect a minimum sample as specified in the method, for ASTM D6784, <sup>b</sup> collect a minimum of 2 dscm. |
|   | b. Mercury                       | 2.0E-06 <sup>a</sup> lb per MMBtu of heat input   | 2.5E-06 <sup>a</sup> lb per MMBtu of steam output or 2.8E-05 lb per MWh   |  |
| 15. Units designed to burn heavy liquid fuel                | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average                       | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average  | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)        | 6.2E-02 lb per MMBtu of heat input; or (2.0E-04 lb per MMBtu of heat input)                         | 7.5E-02 lb per MMBtu of steam output or 8.6E-01 lb per MWh; or (2.5E-04 lb per MMBtu of steam output or 2.8E-03 lb per MWh) | Collect a minimum of 1 dscm per run.   |
| 16. Units designed to burn light liquid fuel                | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen                                      | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh   | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)        | 7.9E-03 <sup>a</sup> lb per MMBtu of heat input; or (6.2E-05 lb per MMBtu of heat input)            | 9.6E-03 <sup>a</sup> lb per MMBtu of steam output or 1.1E-01 <sup>a</sup> lb per MWh; or (7.5E-05 lb per MMBtu of steam     | Collect a minimum of 3 dscm per run.   |

| If your boiler or process heater is in this subcategory ...           | For the following pollutants ... | The emissions must not exceed the following emission limits, except during startup and shutdown ... | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown ...     | Using this specified sampling volume or test run duration ...   |
|---|----------------------------------|---|---|---|
|   |                                  |   | output or 8.6E-04 lb per MWh)   |   |
| 17. Units designed to burn liquid fuel that are non-continental units | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test   | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average  | 1 hr minimum sampling time.   |
|   | b. Filterable PM (or TSM)        | 2.7E-01 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)                         | 3.3E-01 lb per MMBtu of steam output or 3.8 lb per MWh; or (1.1E-03 lb per MMBtu of steam output or 1.2E-02 lb per MWh) | Collect a minimum of 2 dscm per run.  |
| 18. Units designed to burn gas 2 (other) gases                        | a. CO                            | 130 ppm by volume on a dry basis corrected to 3 percent oxygen                                      | 0.16 lb per MMBtu of steam output or 1.0 lb per MWh   | 1 hr minimum sampling time.   |
|   | b. HCl                           | 1.7E-03 lb per MMBtu of heat input  | 2.9E-03 lb per MMBtu of steam output or 1.8E-02 lb per MWh  | For M26A, collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.  |
|   | c. Mercury                       | 7.9E-06 lb per MMBtu of heat input  | 1.4E-05 lb per MMBtu of steam output or 8.3E-05 lb per MWh  | For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 2 dscm. |
|   | d. Filterable                    | 6.7E-03 lb per MMBtu of heat input  | 1.2E-02 lb per MMBtu of steam   | Collect a minimum of 3 dscm per run.  |



| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during startup and shutdown . . . | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown . . . | Using this specified sampling volume or test run duration . . . |
|---|------------------------------------|---|---|---|
|   | PM (or TSM)                        | or (2.1E-04 lb per MMBtu of heat input)   | output or 7.0E-02 lb per MWh; or (3.5E-04 lb per MMBtu of steam output or 2.2E-03 lb per MWh)                         |   |

<sup>a</sup> If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to [§ 63.7515](#) if all of the other provisions of [§ 63.7515](#) are met. For all other pollutants that do not contain a footnote a, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

<sup>b</sup> Incorporated by reference, see [§ 63.14](#).

<sup>c</sup> An owner or operator may request an alternative test method under [§ 63.7 of this chapter](#), in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO<sub>2</sub> correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO<sub>2</sub> being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

[[78 FR 7195](#), Jan. 31, 2013, as amended at [80 FR 72821](#), Nov. 20, 2015]

## Table 3 to Subpart DDDDD of Part 63 - Work Practice Standards

As stated in [§ 63.7500](#), you must comply with the following applicable work practice standards:

| If your unit is . . .   | You must meet the following . . .   |
|---|---|
| 1. A new or existing boiler or process heater with a continuous oxygen trim system that | Conduct a tune-up of the boiler or process heater every 5 years as specified in <a href="#">§ 63.7540</a> . |

| If your unit is . . .  | You must meet the following . . .   |
|--|---|
| <p>maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater</p>  |   |
| <p>2. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of less than 10 million Btu per hour in the unit designed to burn heavy liquid or unit designed to burn solid fuel subcategories; or a new or existing boiler or process heater with heat input capacity of less than 10 million Btu per hour, but greater than 5 million Btu per hour, in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid</p> | <p>Conduct a tune-up of the boiler or process heater biennially as specified in <a href="#">§ 63.7540</a>.</p>  |
| <p>3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater</p>  | <p>Conduct a tune-up of the boiler or process heater annually as specified in <a href="#">§ 63.7540</a>. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans.</p>  |
| <p>4. An existing boiler or process heater located at a major source facility, not including limited use units</p>   | <p>Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in <a href="#">§ 63.7495</a> that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in <a href="#">§ 63.7575</a>:</p> |

| If your unit is . . .  | You must meet the following . . .  |
|--|--|
|  | <ul style="list-style-type: none"> <li>a. A visual inspection of the boiler or process heater system.</li> <li>b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.</li> <li>c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.</li> <li>d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.</li> <li>e. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified.</li> <li>f. A list of cost-effective energy conservation measures that are within the facility's control.</li> <li>g. A list of the energy savings potential of the energy conservation measures identified.</li> <li>h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.</li> </ul> |
| <p>5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup</p> | <ul style="list-style-type: none"> <li>a. You must operate all CMS during startup.</li> <li>b. For startup of a boiler or process heater, you must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.</li> <li>c. You have the option of complying using either of the following work practice standards.               <ul style="list-style-type: none"> <li>(1) If you choose to comply using definition (1) of “startup” in <a href="#">§ 63.7575</a>, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of</li> </ul> </li> </ul>  |

| If your unit is . . .  | You must meet the following . . .  |
|--|--|
| <p>6. An existing or new boiler or process heater subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart during shutdown</p> | <p>the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose, OR</p> <p>(2) If you choose to comply using definition (2) of “startup” in <a href="#">§ 63.7575</a>, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels<sup>a</sup>. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in <a href="#">§ 63.7505(e)</a>.</p> <p>d. You must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in <a href="#">§ 63.7535(b)</a>. You must keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in <a href="#">§ 63.7555</a>.</p> <p>You must operate all CMS during shutdown. While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR but, in any case, when necessary to comply with other standards applicable to the source that require operation of the control device.</p> <p>If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to</p> |

| If your unit is . . . | You must meet the following . . .  |
|-----------------------|--|
|                       | <p>support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas.</p> <p>You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in <a href="#">§ 63.7535(b)</a>. You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in <a href="#">§ 63.7555</a>.</p> |

<sup>a</sup> As specified in [§ 63.7555\(d\)\(13\)](#), the source may request an alternative timeframe with the PM controls requirement to the permitting authority (state, local, or tribal agency) that has been delegated authority for this subpart by EPA. The source must provide evidence that (1) it is unable to safely engage and operate the PM control(s) to meet the “fuel firing + 1 hour” requirement and (2) the PM control device is appropriately designed and sized to meet the filterable PM emission limit. It is acknowledged that there may be another control device that has been installed other than ESP that provides additional PM control (*e.g.*, scrubber).

[[78 FR 7198](#), Jan. 31, 2013, as amended at [80 FR 72823](#), Nov. 20, 2015]

## Table 4 to Subpart DDDDD of Part 63 - Operating Limits for Boilers and Process Heaters

As stated in [§ 63.7500](#), you must comply with the applicable operating limits:

Table 4 to Subpart DDDDD of Part 63 - Operating Limits for Boilers and Process Heaters

| When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . . | You must meet these operating limits . . .   |
|--|--|
| 1. Wet PM scrubber control on a boiler or process heater not using a PM CPMS         | Maintain the 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the performance test demonstrating compliance with the PM emission limitation according to <a href="#">§ 63.7530(b)</a> and Table 7 to this subpart. |
| 2. Wet acid gas (HCl)  | Maintain the 30-day rolling average effluent pH at or above the  |

| When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . .               | You must meet these operating limits . . .  |
|--|---|
| scrubber <sup>a</sup> control on a boiler or process heater not using a HCl CEMS                   | lowest one-hour average pH and the 30-day rolling average liquid flow rate at or above the lowest one-hour average liquid flow rate measured during the performance test demonstrating compliance with the HCl emission limitation according to <a href="#">§ 63.7530(b)</a> and Table 7 to this subpart.   |
| 3. Fabric filter control on a boiler or process heater not using a PM CPMS                         | <p>a. Maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average); or</p> <p>b. Install and operate a bag leak detection system according to <a href="#">§ 63.7525</a> and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.</p>   |
| 4. Electrostatic precipitator control on a boiler or process heater not using a PM CPMS            | <p>a. This option is for boilers and process heaters that operate dry control systems (<i>i.e.</i>, an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).</p> <p>b. This option is only for boilers and process heaters not subject to PM CPMS or continuous compliance with an opacity limit (<i>i.e.</i>, dry ESP). Maintain the 30-day rolling average total secondary electric power input of the electrostatic precipitator at or above the operating limits established during the performance test according to <a href="#">§ 63.7530(b)</a> and Table 7 to this subpart.</p> |
| 5. Dry scrubber or carbon injection control on a boiler or process heater not using a mercury CEMS | Maintain the minimum sorbent or carbon injection rate as defined in <a href="#">§ 63.7575 of this subpart</a> .   |
| 6. Any other add-on air pollution control type on a boiler or process heater not using a PM CPMS   | <p>This option is for boilers and process heaters that operate dry control systems. Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).</p>  |
| 7. Performance testing   | For boilers and process heaters that demonstrate compliance with a performance test, maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.  |

| When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . . | You must meet these operating limits . . .   |
|--|--|
| 8. Oxygen analyzer system  | For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O <sub>2</sub> analyzer system as specified in <a href="#">§ 63.7525(a)</a> , maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the CO performance test, as specified in Table 8. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in <a href="#">§ 63.7525(a)</a> . |
| 9. SO <sub>2</sub> CEMS  | For boilers or process heaters subject to an HCl emission limit that demonstrate compliance with an SO <sub>2</sub> CEMS, maintain the 30-day rolling average SO <sub>2</sub> emission rate at or below the highest hourly average SO <sub>2</sub> concentration measured during the HCl performance test, as specified in Table 8.  |

<sup>a</sup> A wet acid gas scrubber is a control device that removes acid gases by contacting the combustion gas with an alkaline slurry or solution. Alkaline reagents include, but not limited to, lime, limestone and sodium.

[[80 FR 72874](#), Nov. 20, 2015]

## Table 5 to Subpart DDDDD of Part 63 - Performance Testing Requirements

As stated in [§ 63.7520](#), you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources:

| To conduct a performance test for the following pollutant . . . | You must. . .  | Using, as appropriate . . .  |
|---|--|--|
| 1. Filterable PM  | a. Select sampling ports location and the number of traverse points  | Method 1 at <a href="#">40 CFR part 60, appendix A-1</a> of this chapter.  |
|   | b. Determine velocity and volumetric flow-rate of the stack gas      | Method 2, 2F, or 2G at <a href="#">40 CFR part 60, appendix A-1</a> or A-2 to <a href="#">part 60 of this chapter</a> .                                |
|   | c. Determine oxygen or carbon dioxide concentration of the stack gas | Method 3A or 3B at <a href="#">40 CFR part 60, appendix A-2</a> to <a href="#">part 60 of this chapter</a> , or ANSI/ASME PTC 19.10-1981. <sup>a</sup> |



| To conduct a performance test for the following pollutant . . . | You must. . .  | Using, as appropriate . . .  |
|---|--|--|
| 2. TSM  | d. Measure the moisture content of the stack gas                     | Method 4 at <a href="#">40 CFR part 60, appendix A-3</a> of this chapter.  |
|   | e. Measure the PM emission concentration                             | Method 5 or 17 (positive pressure fabric filters must use Method 5D) at <a href="#">40 CFR part 60, appendix A-3</a> or A-6 of this chapter. |
|   | f. Convert emissions concentration to lb per MMBtu emission rates    | Method 19 F-factor methodology at <a href="#">40 CFR part 60, appendix A-7</a> of this chapter.  |
|   | a. Select sampling ports location and the number of traverse points  | Method 1 at <a href="#">40 CFR part 60, appendix A-1</a> of this chapter.  |
|   | b. Determine velocity and volumetric flow-rate of the stack gas      | Method 2, 2F, or 2G at <a href="#">40 CFR part 60, appendix A-1</a> or A-2 of this chapter.  |
|   | c. Determine oxygen or carbon dioxide concentration of the stack gas | Method 3A or 3B at <a href="#">40 CFR part 60, appendix A-1</a> of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>a</sup>                   |
| 3. Hydrogen chloride  | d. Measure the moisture content of the stack gas                     | Method 4 at <a href="#">40 CFR part 60, appendix A-3</a> of this chapter.  |
|   | e. Measure the TSM emission concentration                            | Method 29 at <a href="#">40 CFR part 60, appendix A-8</a> of this chapter  |
|   | f. Convert emissions concentration to lb per MMBtu emission rates    | Method 19 F-factor methodology at <a href="#">40 CFR part 60, appendix A-7</a> of this chapter.  |
|   | a. Select sampling ports location and the number of traverse points  | Method 1 at <a href="#">40 CFR part 60, appendix A-1</a> of this chapter.  |
|   | b. Determine velocity and volumetric flow-rate of the stack gas      | Method 2, 2F, or 2G at <a href="#">40 CFR part 60, appendix A-2</a> of this chapter.   |
|   | c. Determine oxygen or carbon dioxide concentration of the stack gas | Method 3A or 3B at <a href="#">40 CFR part 60, appendix A-2</a> of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>a</sup>                   |
|   | d. Measure the moisture content of the stack gas                     | Method 4 at <a href="#">40 CFR part 60, appendix A-3</a> of this chapter.  |
|   | e. Measure the hydrogen chloride                                     | Method 26 or 26A (M26 or M26A) at <a href="#">40 CFR part 60, appendix A-8</a> of this chapter.  |



| To conduct a performance test for the following pollutant . . . | You must. . .   | Using, as appropriate . . .  |
|---|---|--|
|   | emission concentration<br>f. Convert emissions concentration to lb per MMBtu emission rates | Method 19 F-factor methodology at <a href="#">40 CFR part 60, appendix A-7</a> of this chapter.  |
| 4. Mercury  | a. Select sampling ports location and the number of traverse points                         | Method 1 at <a href="#">40 CFR part 60, appendix A-1</a> of this chapter.  |
|   | b. Determine velocity and volumetric flow-rate of the stack gas                             | Method 2, 2F, or 2G at <a href="#">40 CFR part 60, appendix A-1</a> or A-2 of this chapter.  |
|   | c. Determine oxygen or carbon dioxide concentration of the stack gas                        | Method 3A or 3B at <a href="#">40 CFR part 60, appendix A-1</a> of this chapter, or ANSI/ASME PTC 19.10-1981. <sup>a</sup>   |
|   | d. Measure the moisture content of the stack gas  | Method 4 at <a href="#">40 CFR part 60, appendix A-3</a> of this chapter.  |
|   | e. Measure the mercury emission concentration   | Method 29, 30A, or 30B (M29, M30A, or M30B) at <a href="#">40 CFR part 60, appendix A-8</a> of this chapter or Method 101A at <a href="#">40 CFR part 61, appendix B</a> of this chapter, or ASTM Method D6784. <sup>a</sup> |
|   | f. Convert emissions concentration to lb per MMBtu emission rates                           | Method 19 F-factor methodology at <a href="#">40 CFR part 60, appendix A-7</a> of this chapter.  |
| 5. CO   | a. Select the sampling ports location and the number of traverse points                     | Method 1 at <a href="#">40 CFR part 60, appendix A-1</a> of this chapter.  |
|   | b. Determine oxygen concentration of the stack gas  | Method 3A or 3B at <a href="#">40 CFR part 60, appendix A-3</a> of this chapter, or ASTM D6522-00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981. <sup>a</sup>   |
|   | c. Measure the moisture content of the stack gas  | Method 4 at <a href="#">40 CFR part 60, appendix A-3</a> of this chapter.  |
|   | d. Measure the CO emission concentration  | Method 10 at <a href="#">40 CFR part 60, appendix A-4</a> of this chapter. Use a measurement span value of 2 times the concentration of the applicable emission limit.   |

<sup>a</sup> Incorporated by reference, see [§ 63.14](#).

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7200](#), Jan. 31, 2013; [80 FR 72825](#), Nov. 20, 2015]

## Table 6 to Subpart DDDDD of Part 63 - Fuel Analysis Requirements

As stated in [§ 63.7521](#), you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources. However, equivalent methods (as defined in [§ 63.7575](#)) may be used in lieu of the prescribed methods at the discretion of the source owner or operator:

| To conduct a fuel analysis for the following pollutant . . . | You must . . .   | Using . . .  |
|--|--|--|
| 1. Mercury   | a. Collect fuel samples  | Procedure in <a href="#">§ 63.7521(c)</a> or ASTM D5192 <sup>a</sup> , or ASTM D7430 <sup>a</sup> , or ASTM D6883 <sup>a</sup> , or ASTM D2234/D2234M <sup>a</sup> (for coal) or EPA 1631 or EPA 1631E or ASTM D6323 <sup>a</sup> (for solid), or EPA 821-R-01-013 (for liquid or solid), or ASTM D4177 <sup>a</sup> (for liquid), or ASTM D4057 <sup>a</sup> (for liquid), or equivalent. |
|  | b. Composite fuel samples  | Procedure in <a href="#">§ 63.7521(d)</a> or equivalent.   |
|  | c. Prepare composited fuel samples   | EPA SW-846-3050B <sup>a</sup> (for solid samples), ASTM D2013/D2013M <sup>a</sup> (for coal), ASTM D5198 <sup>a</sup> (for biomass), or EPA 3050 <sup>a</sup> (for solid fuel), or EPA 821-R-01-013 <sup>a</sup> (for liquid or solid), or equivalent.   |
|  | d. Determine heat content of the fuel type   | ASTM D5865 <sup>a</sup> (for coal) or ASTM E711 <sup>a</sup> (for biomass), or ASTM D5864 <sup>a</sup> for liquids and other solids, or ASTM D240 <sup>a</sup> or equivalent.  |
|  | e. Determine moisture content of the fuel type                                     | ASTM D3173 <sup>a</sup> , ASTM E871 <sup>a</sup> , or ASTM D5864 <sup>a</sup> , or ASTM D240 <sup>a</sup> , or ASTM D95 <sup>a</sup> (for liquid fuels), or ASTM D4006 <sup>a</sup> (for liquid fuels), or equivalent.   |
|  | f. Measure mercury concentration in fuel sample                                    | ASTM D6722 <sup>a</sup> (for coal), EPA SW-846-7471B <sup>a</sup> or EPA 1631 or EPA 1631E <sup>a</sup> (for solid samples), or EPA SW-846-7470A <sup>a</sup> or EPA SW-846-7471B <sup>a</sup> (for liquid samples), or EPA 821-R-01-013 <sup>a</sup> (for liquid or solid), or equivalent.  |
|  | g. Convert concentration into units of pounds of mercury per MMBtu of heat content | For fuel mixtures use Equation 8 in <a href="#">§ 63.7530</a> .  |

| To conduct a fuel analysis for the following pollutant . . . | You must . . .   | Using . . .  |
|--|--|--|
| 2. HCl   | a. Collect fuel samples  | Procedure in <a href="#">§ 63.7521(c)</a> or ASTM D5192 <sup>a</sup> , or ASTM D7430 <sup>a</sup> , or ASTM D6883 <sup>a</sup> , or ASTM D2234/D2234M <sup>a</sup> (for coal) or ASTM D6323 <sup>a</sup> (for coal or biomass), ASTM D4177 <sup>a</sup> (for liquid fuels) or ASTM D4057 <sup>a</sup> (for liquid fuels), or equivalent. |
|  | b. Composite fuel samples  | Procedure in <a href="#">§ 63.7521(d)</a> or equivalent.   |
|  | c. Prepare composited fuel samples   | EPA SW-846-3050B <sup>a</sup> (for solid samples), ASTM D2013/D2013M <sup>a</sup> (for coal), or ASTM D5198 <sup>a</sup> (for biomass), or EPA 3050 <sup>a</sup> or equivalent.  |
|  | d. Determine heat content of the fuel type   | ASTM D5865 <sup>a</sup> (for coal) or ASTM E711 <sup>a</sup> (for biomass), ASTM D5864 <sup>a</sup> , ASTM D240 <sup>a</sup> or equivalent.  |
|  | e. Determine moisture content of the fuel type   | ASTM D3173 <sup>a</sup> or ASTM E871 <sup>a</sup> , or D5864 <sup>a</sup> , or ASTM D240 <sup>a</sup> , or ASTM D95 <sup>a</sup> (for liquid fuels), or ASTM D4006 <sup>a</sup> (for liquid fuels), or equivalent.   |
|  | f. Measure chlorine concentration in fuel sample   | EPA SW-846-9250 <sup>a</sup> , ASTM D6721 <sup>a</sup> , ASTM D4208 <sup>a</sup> (for coal), or EPA SW-846-5050 <sup>a</sup> or ASTM E776 <sup>a</sup> (for solid fuel), or EPA SW-846-9056 <sup>a</sup> or SW-846-9076 <sup>a</sup> (for solids or liquids) or equivalent.  |
|  | g. Convert concentrations into units of pounds of HCl per MMBtu of heat content  | For fuel mixtures use Equation 7 in <a href="#">§ 63.7530</a> and convert from chlorine to HCl by multiplying by 1.028.  |
| 3. Mercury Fuel Specification for other gas 1 fuels          | a. Measure mercury concentration in the fuel sample and convert to units of micrograms per cubic meter, or                         | Method 30B (M30B) at <a href="#">40 CFR part 60, appendix A-8</a> of this chapter or ASTM D5954 <sup>a</sup> , ASTM D6350 <sup>a</sup> , ISO 6978-1:2003(E) <sup>a</sup> , or ISO 6978-2:2003(E) <sup>a</sup> , or EPA-1631 <sup>a</sup> or equivalent.  |
|  | b. Measure mercury concentration in the exhaust gas when firing only the other gas 1 fuel is fired in the boiler or process heater | Method 29, 30A, or 30B (M29, M30A, or M30B) at <a href="#">40 CFR part 60, appendix A-8</a> of this chapter or Method 101A or Method 102 at <a href="#">40 CFR part 61, appendix B</a> of this chapter, or ASTM Method D6784 <sup>a</sup> or equivalent.   |
| 4. TSM   | a. Collect fuel samples  | Procedure in <a href="#">§ 63.7521(c)</a> or ASTM D5192 <sup>a</sup> , or ASTM D7430 <sup>a</sup> , or ASTM D6883 <sup>a</sup> , or ASTM D2234/D2234M <sup>a</sup> (for coal) or ASTM D6323 <sup>a</sup> (for coal or biomass), or ASTM D4177 <sup>a</sup> , (for  |

| To conduct a fuel analysis for the following pollutant . . . | You must . . .  | Using . . .  |
|--|---|--|
|  |   | liquid fuels), or ASTM D4057 <sup>a</sup> (for liquid fuels), or equivalent.   |
|  | b. Composite fuel samples   | Procedure in <a href="#">§ 63.7521(d)</a> or equivalent.   |
|  | c. Prepare composited fuel samples  | EPA SW-846-3050B <sup>a</sup> (for solid samples), ASTM D2013/D2013M <sup>a</sup> (for coal), ASTM D5198 <sup>a</sup> or TAPPI T266 <sup>a</sup> (for biomass), or EPA 3050 <sup>a</sup> or equivalent.  |
|  | d. Determine heat content of the fuel type                                      | ASTM D5865 <sup>a</sup> (for coal) or ASTM E711 <sup>a</sup> (for biomass), or ASTM D5864 <sup>a</sup> for liquids and other solids, or ASTM D240 <sup>a</sup> or equivalent.  |
|  | e. Determine moisture content of the fuel type                                  | ASTM D3173 <sup>a</sup> or ASTM E871 <sup>a</sup> , or D5864 <sup>a</sup> , or ASTM D240 <sup>a</sup> , or ASTM D95 <sup>a</sup> (for liquid fuels), or ASTM D4006 <sup>a</sup> (for liquid fuels), or ASTM D4177 <sup>a</sup> (for liquid fuels) or ASTM D4057 <sup>a</sup> (for liquid fuels), or equivalent.                              |
|  | f. Measure TSM concentration in fuel sample                                     | ASTM D3683 <sup>a</sup> , or ASTM D4606 <sup>a</sup> , or ASTM D6357 <sup>a</sup> or EPA 200.8 <sup>a</sup> or EPA SW-846-6020 <sup>a</sup> , or EPA SW-846-6020A <sup>a</sup> , or EPA SW-846-6010C <sup>a</sup> , EPA 7060 <sup>a</sup> or EPA 7060A <sup>a</sup> (for arsenic only), or EPA SW-846-7740 <sup>a</sup> (for selenium only). |
|  | g. Convert concentrations into units of pounds of TSM per MMBtu of heat content | For fuel mixtures use Equation 9 in <a href="#">§ 63.7530</a> .  |

<sup>a</sup> Incorporated by reference, see [§ 63.14](#).

[[83 FR 56725](#), Nov. 14, 2018]

## Table 7 to Subpart DDDDD of Part 63 - Establishing Operating Limits<sup>a b</sup>

As stated in [§ 63.7520](#), you must comply with the following requirements for establishing operating limits:

Table 7 to Subpart DDDDD of Part 63 - Establishing Operating Limits<sup>a b</sup>

| If you have an applicable emission limit for ... | And your operating limits are based on ...  | You must ...  | Using ...   | According to the following requirements  |
|--|---|---|---|--|
| 1. PM, TSM, or mercury                           | a. Wet scrubber operating parameters  | i. Establish a site-specific minimum scrubber pressure drop and minimum flow rate operating limit according to <a href="#">§ 63.7530(b)</a> | (1) Data from the scrubber pressure drop and liquid flow rate monitors and the PM, TSM, or mercury performance test | (a) You must collect scrubber pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance tests.<br>(b) Determine the lowest hourly average scrubber pressure drop and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.  |
|  | b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers) | i. Establish a site-specific minimum total secondary electric power input according to <a href="#">§ 63.7530(b)</a>                         | (1) Data from the voltage and secondary amperage monitors during the PM or mercury performance test                 | (a) You must collect secondary voltage and secondary amperage for each ESP cell and calculate total secondary electric power input data every 15 minutes during the entire period of the performance tests.<br>(b) Determine the average total secondary electric power input by computing the hourly averages using all of the 15-minute readings taken during each performance test. |
|  | c. Opacity  | i. Establish a site-specific maximum opacity level  | (1) Data from the opacity monitoring system during the PM performance test  | (a) You must collect opacity readings every 15 minutes during the entire period of the performance tests.<br>(b) Determine the average hourly opacity reading for each performance test run by   |

| If you have an applicable emission limit for ... | And your operating limits are based on ... | You must ...   | Using ...   | According to the following requirements  |
|--|--|--|---|--|
| 2. HCl   | a. Wet scrubber operating parameters       | i. Establish site-specific minimum effluent pH and flow rate operating limits according to <a href="#">§ 63.7530(b)</a>  | (1) Data from the pH and liquid flow-rate monitors and the HCl performance test       | <p>computing the hourly averages using all of the 15-minute readings taken during each performance test run.</p> <p>(c) Determine the highest hourly average opacity reading measured during the test run demonstrating compliance with the PM (or TSM) emission limitation.</p> <p>(a) You must collect pH and liquid flow-rate data every 15 minutes during the entire period of the performance tests.</p> <p>(b) Determine the hourly average pH and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.</p> |
|  |  | i. Establish a site-specific minimum sorbent injection rate operating limit according to <a href="#">§ 63.7530(b)</a> . If different acid gas sorbents are used during the HCl performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent | (1) Data from the sorbent injection rate monitors and HCl or mercury performance test | <p>(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests.</p> <p>(b) Determine the hourly average sorbent injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.</p> <p>(c) Determine the</p>   |
|  | b. Dry scrubber operating parameters       |  |   |  |
|  |  |  |   |  |

| If you have an applicable emission limit for . . . | And your operating limits are based on . . .         | You must . . .   | Using . . .   | According to the following requirements   |
|--|--|--|---|---|
|  | c. Alternative Maximum SO <sub>2</sub> emission rate | i. Establish a site-specific maximum SO <sub>2</sub> emission rate operating limit according to <a href="#">§ 63.7530(b)</a>   | (1) Data from SO <sub>2</sub> CEMS and the HCl performance test               | <p>lowest hourly average of the three test run averages established during the performance test as your operating limit. When your unit operates at lower loads, multiply your sorbent injection rate by the load fraction, as defined in <a href="#">§ 63.7575</a>, to determine the required injection rate.</p> <p>(a) You must collect the SO<sub>2</sub> emissions data according to <a href="#">§ 63.7525(m)</a> during the most recent HCl performance tests.</p> <p>(b) The maximum SO<sub>2</sub> emission rate is equal to the highest hourly average SO<sub>2</sub> emission rate measured during the most recent HCl performance tests.</p> |
| 3. Mercury   | a. Activated carbon injection                        | i. Establish a site-specific minimum activated carbon injection rate operating limit according to <a href="#">§ 63.7530(b)</a> | (1) Data from the activated carbon rate monitors and mercury performance test | <p>entire period of the performance tests.</p> <p>(b) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.</p>   |

| If you have an applicable emission limit for . . .                            | And your operating limits are based on . . . | You must . . .  | Using . . .  | According to the following requirements  |
|---|--|---|--|--|
| 4. Carbon monoxide for which compliance is demonstrated by a performance test | a. Oxygen                                    | i. Establish a unit-specific limit for minimum oxygen level according to <a href="#">§ 63.7530(b)</a>   | (1) Data from the oxygen analyzer system specified in <a href="#">§ 63.7525(a)</a> | <p>(c) Determine the lowest hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction, as defined in <a href="#">§ 63.7575</a>, to determine the required injection rate.</p> <p>(a) You must collect oxygen data every 15 minutes during the entire period of the performance tests.</p> <p>(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.</p> <p>(c) Determine the lowest hourly average established during the performance test as your minimum operating limit.</p> |
| 5. Any pollutant for which compliance is demonstrated by a performance test   | a. Boiler or process heater operating load   | i. Establish a unit specific limit for maximum operating load according to <a href="#">§ 63.7520(c)</a> | (1) Data from the operating load monitors or from steam generation monitors        | <p>(a) You must collect operating load or steam generation data every 15 minutes during the entire period of the performance test.</p> <p>(b) Determine the average operating load by computing the</p>  |



| If you have an applicable emission limit for . . . | And your operating limits are based on . . . | You must . . . | Using . . . | According to the following requirements  |
|--|--|----------------|-------------|--|
|  |  |                |             | <p>hourly averages using all of the 15-minute readings taken during each performance test.</p> <p>(c) Determine the highest hourly average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.</p> |

<sup>a</sup> Operating limits must be confirmed or reestablished during performance tests.

<sup>b</sup> If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests. For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.

[[80 FR 72827](#), Nov. 20, 2015]

## Table 8 to Subpart DDDDD of Part 63 - Demonstrating Continuous Compliance

As stated in [§ 63.7540](#), you must show continuous compliance with the emission limitations for each boiler or process heater according to the following:

| If you must meet the following operating limits or work practice standards . . . | You must demonstrate continuous compliance by . . .   |
|--|---|
| 1. Opacity   | <p>a. Collecting the opacity monitoring system data according to <a href="#">§ 63.7525(c)</a> and <a href="#">§ 63.7535</a>; and</p> <p>b. Reducing the opacity monitoring data to 6-minute averages; and</p> <p>c. Maintaining daily block average opacity to less than or equal to 10 percent or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation.</p> |

| If you must meet the following operating limits or work practice standards . . . | You must demonstrate continuous compliance by . . .   |
|--|---|
| 2. PM CPMS   | <ul style="list-style-type: none"> <li>a. Collecting the PM CPMS output data according to <a href="#">§ 63.7525</a>;</li> <li>b. Reducing the data to 30-day rolling averages; and</li> <li>c. Maintaining the 30-day rolling average PM CPMS output data to less than the operating limit established during the performance test according to <a href="#">§ 63.7530(b)(4)</a>.</li> </ul>   |
| 3. Fabric Filter Bag Leak Detection Operation                                    | <p>Installing and operating a bag leak detection system according to <a href="#">§ 63.7525</a> and operating the fabric filter such that the requirements in <a href="#">§ 63.7540(a)(7)</a> are met.</p>   |
| 4. Wet Scrubber Pressure Drop and Liquid Flow-rate                               | <ul style="list-style-type: none"> <li>a. Collecting the pressure drop and liquid flow rate monitoring system data according to <a href="#">§§ 63.7525</a> and <a href="#">63.7535</a>; and</li> <li>b. Reducing the data to 30-day rolling averages; and</li> <li>c. Maintaining the 30-day rolling average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to <a href="#">§ 63.7530(b)</a>.</li> </ul>  |
| 5. Wet Scrubber pH   | <ul style="list-style-type: none"> <li>a. Collecting the pH monitoring system data according to <a href="#">§§ 63.7525</a> and <a href="#">63.7535</a>; and</li> <li>b. Reducing the data to 30-day rolling averages; and</li> <li>c. Maintaining the 30-day rolling average pH at or above the operating limit established during the performance test according to <a href="#">§ 63.7530(b)</a>.</li> </ul>   |
| 6. Dry Scrubber Sorbent or Carbon Injection Rate                                 | <ul style="list-style-type: none"> <li>a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to <a href="#">§§ 63.7525</a> and <a href="#">63.7535</a>; and</li> <li>b. Reducing the data to 30-day rolling averages; and</li> <li>c. Maintaining the 30-day rolling average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in <a href="#">§ 63.7575</a>.</li> </ul>   |
| 7. Electrostatic Precipitator Total Secondary Electric Power Input               | <ul style="list-style-type: none"> <li>a. Collecting the total secondary electric power input monitoring system data for the electrostatic precipitator according to <a href="#">§§ 63.7525</a> and <a href="#">63.7535</a>; and</li> <li>b. Reducing the data to 30-day rolling averages; and</li> <li>c. Maintaining the 30-day rolling average total secondary electric power input at or above the operating limits established during the performance test according to <a href="#">§ 63.7530(b)</a>.</li> </ul> |
| 8. Emission limits using fuel analysis   | <ul style="list-style-type: none"> <li>a. Conduct monthly fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart; and</li> <li>b. Reduce the data to 12-month rolling averages; and</li> <li>c. Maintain the 12-month rolling average at or below the applicable emission limit for HCl or mercury or TSM in Tables 1 and 2 or 11</li> </ul>  |

| If you must meet the following operating limits or work practice standards . . . | You must demonstrate continuous compliance by . . .  |
|--|--|
| 9. Oxygen content  | <p>through 13 to this subpart.</p> <p>d. Calculate the HCl, mercury, and/or TSM emission rate from the boiler or process heater in units of lb/MMBtu using Equation 15 and Equations 17, 18, and/or 19 in <a href="#">§ 63.7530</a>.</p> <p>a. Continuously monitor the oxygen content using an oxygen analyzer system according to <a href="#">§ 63.7525(a)</a>. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in <a href="#">§ 63.7525(a)(7)</a>.</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the CO performance test.</p> |
| 10. Boiler or process heater operating load                                      | <p>a. Collecting operating load data or steam generation data every 15 minutes.</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test according to <a href="#">§ 63.7520(c)</a>.</p>  |
| 11. SO <sub>2</sub> emissions using SO <sub>2</sub> CEMS                         | <p>a. Collecting the SO<sub>2</sub> CEMS output data according to <a href="#">§ 63.7525</a>;</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average SO<sub>2</sub> CEMS emission rate to a level at or below the highest hourly SO<sub>2</sub> rate measured during the HCl performance test according to <a href="#">§ 63.7530</a>.</p>   |

[[78 FR 7204](#), Jan. 31, 2013, as amended at [80 FR 72829](#), Nov. 20, 2015]

## Table 9 to Subpart DDDDD of Part 63 - Reporting Requirements

As stated in [§ 63.7550](#), you must comply with the following requirements for reports:

| You must submit a(n) | The report must contain . . .  | You must submit the report . . .               |
|----------------------|--|--|
| 1. Compliance        | a. Information required in <a href="#">§ 63.7550(c)(1)</a> through <a href="#">(5)</a> ; and | Semiannually, annually, biennially, or every 5 |

| You must submit a(n) | The report must contain . . .   | You must submit the report . . .                                      |
|----------------------|---|---|
| report               | <p>b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in <a href="#">§ 63.8(c)(7)</a>, a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and</p> <p>c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must contain the information in <a href="#">§ 63.7550(d)</a>; and</p> <p>d. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in <a href="#">§ 63.8(c)(7)</a>, or otherwise not operating, the report must contain the information in <a href="#">§ 63.7550(e)</a></p> | years according to the requirements in <a href="#">§ 63.7550(b)</a> . |

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7205](#), Jan. 31, 2013; [80 FR 72830](#), Nov. 20, 2015]

## Table 10 to Subpart DDDDD of Part 63 - Applicability of General Provisions to Subpart DDDDD

As stated in [§ 63.7565](#), you must comply with the applicable General Provisions according to the following:

| Citation | Subject | Applies to subpart DDDDD |
|----------|---------|--------------------------|
|----------|---------|--------------------------|

| Citation                              | Subject   | Applies to subpart DDDDD   |
|---------------------------------------|---|--|
| § 63.1                                | Applicability   | Yes.   |
| § 63.2                                | Definitions   | Yes. Additional terms defined in <a href="#">§ 63.7575</a>   |
| § 63.3                                | Units and Abbreviations   | Yes.   |
| § 63.4                                | Prohibited Activities and Circumvention   | Yes.   |
| § 63.5                                | Preconstruction Review and Notification Requirements  | Yes.   |
| § 63.6(a), (b)(1)-(b)(5), (b)(7), (c) | Compliance with Standards and Maintenance Requirements  | Yes.   |
| § 63.6(e)(1)(i)                       | General duty to minimize emissions.   | No. See <a href="#">§ 63.7500(a)(3)</a> for the general duty requirement.  |
| § 63.6(e)(1)(ii)                      | Requirement to correct malfunctions as soon as practicable.                                       | No.  |
| § 63.6(e)(3)                          | Startup, shutdown, and malfunction plan requirements.   | No.  |
| § 63.6(f)(1)                          | Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards. | No.  |
| § 63.6(f)(2) and (3)                  | Compliance with non-opacity emission standards.   | Yes.   |
| § 63.6(g)                             | Use of alternative standards  | Yes, except <a href="#">§ 63.7555(d)(13)</a> specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2). |
| § 63.6(h)(1)                          | Startup, shutdown, and malfunction exemptions to opacity standards.                               | No. See <a href="#">§ 63.7500(a)</a> .   |
| § 63.6(h)(2) to (h)(9)                | Determining compliance with opacity emission standards  | No. Subpart DDDDD specifies opacity as an operating limit not an emission standard.  |
| § 63.6(i)                             | Extension of compliance   | Yes. Note: Facilities may also   |

| Citation                               | Subject  | Applies to subpart DDDDD   |
|--|--|--|
|  |  | request extensions of compliance for the installation of combined heat and power, waste heat recovery, or gas pipeline or fuel feeding infrastructure as a means of complying with this subpart. |
| § 63.6(j)                              | Presidential exemption.                              | Yes.   |
| § 63.7(a), (b), (c), and (d)           | Performance Testing Requirements                     | Yes.   |
| § 63.7(e)(1)                           | Conditions for conducting performance tests          | No. Subpart DDDDD specifies conditions for conducting performance tests at <a href="#">§ 63.7520(a)</a> to (c).  |
| § 63.7(e)(2)-(e)(9), (f), (g), and (h) | Performance Testing Requirements                     | Yes.   |
| § 63.8(a) and (b)                      | Applicability and Conduct of Monitoring              | Yes.   |
| § 63.8(c)(1)                           | Operation and maintenance of CMS                     | Yes.   |
| § 63.8(c)(1)(i)                        | General duty to minimize emissions and CMS operation | No. See <a href="#">§ 63.7500(a)(3)</a> .  |
| § 63.8(c)(1)(ii)                       | Operation and maintenance of CMS                     | Yes.   |
| § 63.8(c)(1)(iii)                      | Startup, shutdown, and malfunction plans for CMS     | No.  |
| § 63.8(c)(2) to (c)(9)                 | Operation and maintenance of CMS                     | Yes.   |
| § 63.8(d)(1) and (2)                   | Monitoring Requirements, Quality Control Program     | Yes.   |
| § 63.8(d)(3)                           | Written procedures for CMS                           | Yes, except for the last sentence, which refers to a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.   |
| § 63.8(e)                              | Performance evaluation of a CMS                      | Yes.   |
| § 63.8(f)                              | Use of an alternative monitoring method.             | Yes.   |
| § 63.8(g)                              | Reduction of monitoring                              | Yes.   |

| Citation                    | Subject  | Applies to subpart DDDDD  |
|-----------------------------|--|---|
|                             | data   |   |
| § 63.9                      | Notification Requirements  | Yes.  |
| § 63.10(a), (b)(1)          | Recordkeeping and Reporting Requirements                                     | Yes.  |
| § 63.10(b)(2)(i)            | Recordkeeping of occurrence and duration of startups or shutdowns            | Yes.  |
| § 63.10(b)(2)(ii)           | Recordkeeping of malfunctions  | No. See <a href="#">§ 63.7555(d)(7)</a> for recordkeeping of occurrence and duration and <a href="#">§ 63.7555(d)(8)</a> for actions taken during malfunctions. |
| § 63.10(b)(2)(iii)          | Maintenance records  | Yes.  |
| § 63.10(b)(2)(iv) and (v)   | Actions taken to minimize emissions during startup, shutdown, or malfunction | No.   |
| § 63.10(b)(2)(vi)           | Recordkeeping for CMS malfunctions   | Yes.  |
| § 63.10(b)(2)(vii) to (xiv) | Other CMS requirements   | Yes.  |
| § 63.10(b)(3)               | Recordkeeping requirements for applicability determinations                  | No.   |
| § 63.10(c)(1) to (9)        | Recordkeeping for sources with CMS   | Yes.  |
| § 63.10(c)(10) and (11)     | Recording nature and cause of malfunctions, and corrective actions           | No. See <a href="#">§ 63.7555(d)(7)</a> for recordkeeping of occurrence and duration and <a href="#">§ 63.7555(d)(8)</a> for actions taken during malfunctions. |
| § 63.10(c)(12) and (13)     | Recordkeeping for sources with CMS   | Yes.  |
| § 63.10(c)(15)              | Use of startup, shutdown, and malfunction plan                               | No.   |
| § 63.10(d)(1) and (2)       | General reporting requirements   | Yes.  |
| § 63.10(d)(3)               | Reporting opacity or visible emission observation results                    | No.   |

| Citation   | Subject  | Applies to subpart DDDDD   |
|--|--|--|
| § 63.10(d)(4)  | Progress reports under an extension of compliance  | Yes.   |
| § 63.10(d)(5)  | Startup, shutdown, and malfunction reports   | No. See <a href="#">§ 63.7550(c)(11)</a> for malfunction reporting requirements. |
| § 63.10(e)   | Additional reporting requirements for sources with CMS   | Yes.   |
| § 63.10(f)   | Waiver of recordkeeping or reporting requirements  | Yes.   |
| § 63.11  | Control Device Requirements  | No.  |
| § 63.12  | State Authority and Delegation   | Yes.   |
| § 63.13-63.16  | Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions | Yes.   |
| § 63.1(a)(5),(a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9). | Reserved   | No.  |

[[76 FR 15664](#), Mar. 21, 2011, as amended at [78 FR 7205](#), Jan. 31, 2013; [80 FR 72830](#), Nov. 20, 2015]

**Table 11 to Subpart DDDDD of Part 63 - Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After June 4, 2010, and Before May 20, 2011**



| If your boiler or process heater is in this subcategory . .  | For the following pollutants . .  | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . .  | Using this specified sampling volume or test run duration . . .   |
|--|-----------------------------------|---|---|
| 1. Units in all subcategories designed to burn solid fuel  | a. HCl                            | 0.022 lb per MMBtu of heat input  | For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.   |
| 2. Units in all subcategories designed to burn solid fuel that combust at least 10 percent biomass/bio-based solids on an annual heat input basis and less than 10 percent coal/solid fossil fuels on an annual heat input basis | a. Mercury                        | 8.0E-07 <sup>a</sup> lb per MMBtu of heat input   | For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 4 dscm. |
| 3. Units in all subcategories designed to burn solid fuel that combust at least 10 percent coal/solid fossil fuels on an annual heat input basis and less than 10 percent biomass/bio-based solids on an annual heat input basis | a. Mercury                        | 2.0E-06 lb per MMBtu of heat input  | For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 4 dscm. |
| 4. Units design to burn coal/solid fossil fuel   | a. Filterable PM (or TSM)         | 1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.  |
| 5. Pulverized coal boilers designed to burn coal/solid fossil fuel   | a. Carbon monoxide (CO) (or CEMS) | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.   |
| 6. Stokers designed to burn coal/solid fossil fuel   | a. CO (or CEMS)                   | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by   | 1 hr minimum sampling time.   |

| If your boiler or process heater is in this subcategory . . .                                    | For the following pollutants . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . .  | Using this specified sampling volume or test run duration . . . |
|--|----------------------------------|---|---|
|  |                                  | volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)   |   |
| 7. Fluidized bed units designed to burn coal/solid fossil fuel                                   | a. CO (or CEMS)                  | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
| 8. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel | a. CO (or CEMS)                  | 140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
| 9. Stokers/sloped grate/others designed to burn wet biomass fuel                                 | a. CO (or CEMS)                  | 620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)        | 3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                            |
| 10. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel                         | a. CO                            | 560 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average   | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)        | 3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat  | Collect a minimum of 2 dscm per run.                            |

| If your boiler or process heater is in this subcategory . . .          | For the following pollutants . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . .  | Using this specified sampling volume or test run duration . . . |
|--|----------------------------------|---|---|
| 11. Fluidized bed units designed to burn biomass/bio-based solids      | a. CO (or CEMS)                  | input)<br>230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)        | 9.8E-03 lb per MMBtu of heat input; or (8.3E-05 <sup>a</sup> lb per MMBtu of heat input)  | Collect a minimum of 3 dscm per run.                            |
| 12. Suspension burners designed to burn biomass/bio-based solids       | a. CO (or CEMS)                  | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)       | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)        | 3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                            |
| 13. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids | a. CO (or CEMS)                  | 1,010 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)         | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)        | 8.0E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.                            |
| 14. Fuel cell units designed to  | a. CO                            | 910 ppm by volume on a  | 1 hr minimum sampling   |

| If your boiler or process heater is in this subcategory . . .                | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .  | Using this specified sampling volume or test run duration . . .   |
|--|------------------------------------|---|---|
| burn biomass/bio-based solids  |                                    | dry basis corrected to 3 percent oxygen, 3-run average  | time.   |
|  | b. Filterable PM (or TSM)          | 2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.  |
| 15. Hybrid suspension grate boiler designed to burn biomass/bio-based solids | a. CO (or CEMS)                    | 1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.   |
|  | b. Filterable PM (or TSM)          | 2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.  |
| 16. Units designed to burn liquid fuel                                       | a. HCl                             | 4.4E-04 lb per MMBtu of heat input  | For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.<br>For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 4 dscm. |
|  | b. Mercury                         | 4.8E-07 <sup>a</sup> lb per MMBtu of heat input   |   |
| 17. Units designed to burn heavy liquid fuel                                 | a. CO                              | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average   | 1 hr minimum sampling time.   |
|  | b. Filterable                      | 1.3E-02 lb per MMBtu  | Collect a minimum of 3  |

| If your boiler or process heater is in this subcategory . . .         | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . .   |
|---|------------------------------------|--|---|
|   | PM (or TSM)                        | of heat input; or (7.5E-05 lb per MMBtu of heat input)   | dscm per run.   |
| 18. Units designed to burn light liquid fuel                          | a. CO                              | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average                                    | 1 hr minimum sampling time.   |
|   | b. Filterable PM (or TSM)          | 2.0E-03 <sup>a</sup> lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)                         | Collect a minimum of 3 dscm per run.  |
| 19. Units designed to burn liquid fuel that are non-continental units | a. CO                              | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test                | 1 hr minimum sampling time.   |
|   | b. Filterable PM (or TSM)          | 2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)                                      | Collect a minimum of 4 dscm per run.  |
| 20. Units designed to burn gas 2 (other) gases                        | a. CO                              | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average                                    | 1 hr minimum sampling time.   |
|   | b. HCl                             | 1.7E-03 lb per MMBtu of heat input   | For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.<br>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 3 dscm. |
|   | c. Mercury                         | 7.9E-06 lb per MMBtu of heat input   |   |

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . . |
|---|------------------------------------|--|---|
|   | d. Filterable PM (or TSM)          | 6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)                                      | Collect a minimum of 3 dscm per run.                            |

<sup>a</sup> If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to [§ 63.7515](#) if all of the other provision of [§ 63.7515](#) are met. For all other pollutants that do not contain a footnote “a”, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

<sup>b</sup> Incorporated by reference, see [§ 63.14](#).

<sup>c</sup> An owner or operator may request an alternative test method under [§ 63.7 of this chapter](#), in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO<sub>2</sub> correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO<sub>2</sub> being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

[[80 FR 72831](#), Nov. 20, 2015]

## Table 12 to Subpart DDDDD of Part 63 - Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After May 20, 2011, and Before December 23, 2011

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . . |
|---|------------------------------------|--|---|
| 1. Units in all   | a. HCl                             | 0.022 lb per MMBtu of heat   | For M26A, collect a   |

| If your boiler or process heater is in this subcategory . . .                                    | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .  | Using this specified sampling volume or test run duration . . .  |
|--|------------------------------------|---|--|
| subcategories designed to burn solid fuel  |                                    | input   | minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.<br><br>For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 3 dscm. |
|  | b. Mercury                         | 3.5E-06 <sup>a</sup> lb per MMBtu of heat input   |  |
| 2. Units design to burn coal/solid fossil fuel   | a. Filterable PM (or TSM)          | 1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.   |
| 3. Pulverized coal boilers designed to burn coal/solid fossil fuel                               | a. Carbon monoxide (CO) (or CEMS)  | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.  |
| 4. Stokers designed to burn coal/solid fossil fuel   | a. CO (or CEMS)                    | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average) | 1 hr minimum sampling time.  |
| 5. Fluidized bed units designed to burn coal/solid fossil fuel                                   | a. CO (or CEMS)                    | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.  |
| 6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel | a. CO (or CEMS)                    | 140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3  | 1 hr minimum sampling time.  |

| If your boiler or process heater is in this subcategory . . .           | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .  | Using this specified sampling volume or test run duration . . . |
|---|------------------------------------|---|---|
| 7. Stokers/sloped grate/others designed to burn wet biomass fuel        | a. CO (or CEMS)                    | percent oxygen, <sup>c</sup> 30-day rolling average)<br>620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (390 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
|   | b. Filterable PM (or TSM)          | 3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                            |
| 8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel | a. CO                              | 460 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average   | 1 hr minimum sampling time.                                     |
|   | b. Filterable PM (or TSM)          | 3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                            |
| 9. Fluidized bed units designed to burn biomass/bio-based solids        | a. CO (or CEMS)                    | 260 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)   | 1 hr minimum sampling time.                                     |
|   | b. Filterable PM (or TSM)          | 9.8E-03 lb per MMBtu of heat input; or (8.3E-05 <sup>a</sup> lb per MMBtu of heat input)  | Collect a minimum of 3 dscm per run.                            |
| 10. Suspension burners designed to burn biomass/bio-based solids        | a. CO (or CEMS)                    | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)   | 1 hr minimum sampling time.                                     |
|   | b. Filterable PM (or TSM)          | 3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                            |



| If your boiler or process heater is in this subcategory . . .                | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .  | Using this specified sampling volume or test run duration . . .   |
|--|------------------------------------|---|---|
| 11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids       | a. CO (or CEMS)                    | 470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)   | 1 hr minimum sampling time.   |
|  | b. Filterable PM (or TSM)          | 3.2E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.  |
| 12. Fuel cell units designed to burn biomass/bio-based solids                | a. CO                              | 910 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average   | 1 hr minimum sampling time.   |
|  | b. Filterable PM (or TSM)          | 2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.  |
| 13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids | a. CO (or CEMS)                    | 1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.   |
|  | b. Filterable PM (or TSM)          | 2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.  |
| 14. Units designed to burn liquid fuel                                       | a. HCl                             | 4.4E-04 lb per MMBtu of heat input  | For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.  |
|  | b. Mercury                         | 4.8E-07 <sup>a</sup> lb per MMBtu of heat input   | For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 4 dscm. |

| <b>If your boiler or process heater is in this subcategory . . .</b>  | <b>For the following pollutants . . .</b> | <b>The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .</b> | <b>Using this specified sampling volume or test run duration . . .</b>  |
|---|---|---|---|
| 15. Units designed to burn heavy liquid fuel                          | a. CO                                     | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average   | 1 hr minimum sampling time.   |
|   | b. Filterable PM (or TSM)                 | 1.3E-02 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.  |
| 16. Units designed to burn light liquid fuel                          | a. CO                                     | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average   | 1 hr minimum sampling time.   |
|   | b. Filterable PM (or TSM)                 | 1.3E-03 <sup>a</sup> lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)                                | Collect a minimum of 3 dscm per run.  |
| 17. Units designed to burn liquid fuel that are non-continental units | a. CO                                     | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test                       | 1 hr minimum sampling time.   |
|   | b. Filterable PM (or TSM)                 | 2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)   | Collect a minimum of 4 dscm per run.  |
| 18. Units designed to burn gas 2 (other) gases                        | a. CO                                     | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average   | 1 hr minimum sampling time.   |
|   | b. HCl                                    | 1.7E-03 lb per MMBtu of heat input  | For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.  |
|   | c. Mercury                                | 7.9E-06 lb per MMBtu of heat input  | For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 3 dscm. |
|   | d. Filterable PM (or TSM)                 | 6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.  |

<sup>a</sup> If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to [§ 63.7515](#) if all of the other provision of [§ 63.7515](#) are met. For all other pollutants that do not contain a footnote “a”, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

<sup>b</sup> Incorporated by reference, see [§ 63.14](#).

<sup>c</sup> An owner or operator may request an alternative test method under [§ 63.7 of this chapter](#), in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO<sub>2</sub> correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO<sub>2</sub> being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

[[80 FR 72834](#), Nov. 20, 2015]

## Table 13 to Subpart DDDDD of Part 63 - Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After December 23, 2011, and Before April 1, 2013

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . .   |
|---|------------------------------------|--|---|
| 1. Units in all subcategories designed to burn solid fuel     | a. HCl                             | 0.022 lb per MMBtu of heat input   | For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.   |
|   | b. Mercury                         | 8.6E-07 <sup>a</sup> lb per MMBtu of heat input  | For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 4 dscm. |

| If your boiler or process heater is in this subcategory . . .                                    | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .  | Using this specified sampling volume or test run duration . . . |
|--|------------------------------------|---|---|
| 2. Pulverized coal boilers designed to burn coal/solid fossil fuel                               | a. Carbon monoxide (CO) (or CEMS)  | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (320 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)          | 1.1E-03 lb per MMBtu of heat input; or (2.8E-05 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.                            |
| 3. Stokers designed to burn coal/solid fossil fuel   | a. CO (or CEMS)                    | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average) | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)          | 2.8E-02 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                            |
| 4. Fluidized bed units designed to burn coal/solid fossil fuel                                   | a. CO (or CEMS)                    | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (230 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or TSM)          | 1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.                            |
| 5. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel | a. CO (or CEMS)                    | 140 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (150 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.                                     |
|  | b. Filterable PM (or               | 1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per  | Collect a minimum of 3 dscm per run.                            |

| <b>If your boiler or process heater is in this subcategory . . .</b>    | <b>For the following pollutants . . .</b> | <b>The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .</b>   | <b>Using this specified sampling volume or test run duration . . .</b> |
|---|---|---|--|
|   | TSM)                                      | MMBtu of heat input)  |  |
| 6. Stokers/sloped grate/others designed to burn wet biomass fuel        | a. CO (or CEMS)                           | 620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (410 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)     | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)                 | 3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                                   |
| 7. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel | a. CO                                     | 460 ppm by volume on a dry basis corrected to 3 percent oxygen  | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)                 | 3.2E-01 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                                   |
| 8. Fluidized bed units designed to burn biomass/bio-based solids        | a. CO (or CEMS)                           | 230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average)     | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)                 | 9.8E-03 lb per MMBtu of heat input; or (8.3E-05 <sup>a</sup> lb per MMBtu of heat input)  | Collect a minimum of 3 dscm per run.                                   |
| 9. Suspension burners designed to burn biomass/bio-based solids         | a. CO (or CEMS)                           | 2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average) | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)                 | 5.1E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.                                   |

| If your boiler or process heater is in this subcategory . . .                | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .  | Using this specified sampling volume or test run duration . . .  |
|--|------------------------------------|---|--|
| 10. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids       | a. CO (or CEMS)                    | 810 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)   | 1 hr minimum sampling time.  |
|  | b. Filterable PM (or TSM)          | 3.6E-02 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.   |
| 11. Fuel cell units designed to burn biomass/bio-based solids                | a. CO                              | 910 ppm by volume on a dry basis corrected to 3 percent oxygen  | 1 hr minimum sampling time.  |
|  | b. Filterable PM (or TSM)          | 2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.   |
| 12. Hybrid suspension grate boiler designed to burn biomass/bio-based solids | a. CO (or CEMS)                    | 1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 30-day rolling average) | 1 hr minimum sampling time.  |
|  | b. Filterable PM (or TSM)          | 2.6E-02 lb per MMBtu of heat input; or (4.4E-04 lb per MMBtu of heat input)   | Collect a minimum of 3 dscm per run.   |
| 13. Units designed to burn liquid fuel                                       | a. HCl                             | 1.2E-03 lb per MMBtu of heat input  | For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.   |
|  | b. Mercury                         | 4.9E-07 <sup>a</sup> lb per MMBtu of heat input   | For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 <sup>b</sup> collect a |

| If your boiler or process heater is in this subcategory . . .         | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . .  | Using this specified sampling volume or test run duration . . .                                  |
|---|------------------------------------|---|--|
|   |                                    |   | minimum of 4 dscm.   |
| 14. Units designed to burn heavy liquid fuel                          | a. CO (or CEMS)                    | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (18 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 10-day rolling average)        | 1 hr minimum sampling time.  |
| 15. Units designed to burn light liquid fuel                          | a. CO (or CEMS)                    | 130 <sup>a</sup> ppm by volume on a dry basis corrected to 3 percent oxygen; or (60 ppm by volume on a dry basis corrected to 3 percent oxygen, <sup>c</sup> 1-day block average)             | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)          | 1.1E-03 <sup>a</sup> lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)  | Collect a minimum of 3 dscm per run.   |
| 16. Units designed to burn liquid fuel that are non-continental units | a. CO                              | 130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average based on stack test; or (91 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-hour rolling average) | 1 hr minimum sampling time.  |
|   | b. Filterable PM (or TSM)          | 2.3E-02 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)   | Collect a minimum of 2 dscm per run.   |
| 17. Units designed to burn gas 2 (other) gases                        | a. CO                              | 130 ppm by volume on a dry basis corrected to 3 percent oxygen  | 1 hr minimum sampling time.  |
|   | b. HCl                             | 1.7E-03 lb per MMBtu of heat input  | For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run. |
|   | c. Mercury                         | 7.9E-06 lb per MMBtu of heat input  | For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample         |

| If your boiler or process heater is in this subcategory . . . | For the following pollutants . . . | The emissions must not exceed the following emission limits, except during periods of startup and shutdown . . . | Using this specified sampling volume or test run duration . . .  |
|---|------------------------------------|--|--|
|   | d. Filterable PM (or TSM)          | 6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)                                      | as specified in the method; for ASTM D6784 <sup>b</sup> collect a minimum of 3 dscm.<br><br>Collect a minimum of 3 dscm per run. |

<sup>a</sup> If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit and you are not required to conduct testing for CEMS or CPMS monitor certification, you can skip testing according to [§ 63.7515](#) if all of the other provision of [§ 63.7515](#) are met. For all other pollutants that do not contain a footnote “a”, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

<sup>b</sup> Incorporated by reference, see [§ 63.14](#).

<sup>c</sup> An owner or operator may request an alternative test method under [§ 63.7 of this chapter](#), in order that compliance with the carbon monoxide emissions limit be determined using carbon dioxide as a diluent correction in place of oxygen at 3%. EPA Method 19 F-factors and EPA Method 19 equations must be used to generate the appropriate CO<sub>2</sub> correction percentage for the fuel type burned in the unit, and must also take into account that the 3% oxygen correction is to be done on a dry basis. The alternative test method request must account for any CO<sub>2</sub> being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

[[78 FR 7210](#), Jan. 31, 2013, as amended at [80 FR 72836](#), Nov. 20, 2015]



Appendix F: 40 C.F.R. Part 63, Subpart KK—*National Emission Standards for the Printing and  
Publishing Industry*

## § 63.820 Applicability.

(a) The provisions of this subpart apply to:

(1) Each new and existing facility that is a major source of hazardous air pollutants (HAP), as defined in [40 CFR 63.2](#), at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated, and

(2) Each new and existing facility at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated for which the owner or operator chooses to commit to and meets the criteria of [paragraphs \(a\)\(2\)\(i\) and \(ii\)](#) of this section for purposes of establishing the facility to be an area source of HAP with respect to this subpart. A facility which establishes area source status through some other mechanism, as described in [paragraph \(a\)\(7\)](#) of this section, is not subject to the provisions of this subpart.

(i) Use less than 9.1 Mg (10 tons) per each rolling 12-month period of each HAP at the facility, including materials used for source categories or purposes other than printing and publishing, and

(ii) Use less than 22.7 Mg (25 tons) per each rolling 12-month period of any combination of HAP at the facility, including materials used for source categories or purposes other than printing and publishing.

(3) Each facility for which the owner or operator chooses to commit to and meets the criteria stated in [paragraph \(a\)\(2\)](#) of this section shall be considered an area source, and is subject only to the provisions of [§§ 63.829\(d\) and 63.830\(b\)\(1\) of this subpart](#).

(4) Each facility for which the owner or operator commits to the conditions in [paragraph \(a\)\(2\)](#) of this section may exclude material used in routine janitorial or facility grounds maintenance, personal uses by employees or other persons, the use of products for the purpose of maintaining electric, propane, gasoline and diesel powered motor vehicles operated by the facility, and the use of HAP contained in intake water (used for processing or noncontact cooling) or intake air (used either as compressed air or for combustion).

(5) Each facility for which the owner or operator commits to the conditions in [paragraph \(a\)\(2\)](#) of this section to become an area source, but subsequently exceeds either of the thresholds in [paragraph \(a\)\(2\)](#) of this section for any rolling 12-month period (without first obtaining and complying with other limits that keep its potential to emit HAP below major source levels), shall be considered in violation of its commitment for that 12-month period and shall be considered a major source of HAP beginning the first month after the end of the 12-month period in which either of the HAP-use thresholds was exceeded. As a major source of HAP, each such facility would be subject to the provisions of this subpart as noted in [paragraph \(a\)\(1\)](#) of this section and would no longer be eligible to use the provisions of [paragraph \(a\)\(2\)](#) of this section, even if in subsequent 12-month periods the facility uses less HAP than the thresholds in [paragraph \(a\)\(2\)](#) of this section.

(6) An owner or operator of an affected source subject to [paragraph \(a\)\(2\)](#) of this section who chooses to no longer be subject to [paragraph \(a\)\(2\)](#) of this section shall notify the Administrator of such change. If, by no longer being subject to [paragraph \(a\)\(2\)](#) of this section, the facility at which the affected source is located becomes a major source:

(i) The owner or operator of an existing source must continue to comply with the HAP usage provisions of [paragraph \(a\)\(2\)](#) of this section until the source is in compliance with all relevant requirements for existing affected sources under this subpart;

(ii) The owner or operator of a new source must continue to comply with the HAP usage provisions of [paragraph \(a\)\(2\)](#) of this section until the source is in compliance with all relevant requirements for new affected sources under this subpart.

(7) Nothing in this paragraph is intended to preclude a facility from establishing area source status by limiting its potential to emit through other appropriate mechanisms that may be available through the permitting authority.

(b) This subpart does not apply to research or laboratory equipment.

(c) In response to an action to enforce the standards set forth in this subpart, an owner or operator may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in [§ 63.2](#). Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(1) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of [paragraph \(c\)\(2\)](#) of this section, and must prove by a preponderance of evidence that:

(i) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal or usual manner; and could not have been prevented through careful planning, proper design or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(ii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

(iii) The frequency, amount, and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

(iv) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(v) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment, and human health;

(vi) All emissions monitoring and control systems were kept in operation, if at all possible, consistent with safety and good air pollution control practices;

(vii) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

(viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and

(ix) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(2) **Notification.** The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in [paragraph \(c\)\(1\)](#) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29799](#), May 24, 2006; [76 FR 22597](#), Apr. 21, 2011]

## **§ 63.821 Designation of affected sources.**

(a) The affected sources subject to this subpart are:

(1) All of the publication rotogravure presses and all related equipment, including proof presses, cylinder and parts cleaners, ink and solvent mixing and storage equipment, and solvent recovery equipment at a facility.

(2) All of the product and packaging rotogravure or wide-web flexographic printing presses at a facility plus any other equipment at that facility which the owner or operator chooses to include in accordance with [paragraphs \(a\)\(3\)](#) or [\(a\)\(4\)](#) of this section, except

(i) Proof presses, unless the owner or operator chooses to include proof presses in the affected source in accordance with [paragraph \(a\)\(5\)](#) of this section.

(ii) Any product and packaging rotogravure or wide-web flexographic press which is used primarily for coating, laminating, or other operations which the owner or operator chooses to exclude, provided that

(A) the sum of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press using product and packaging rotogravure print stations and the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press using wide-web flexographic print stations in each month never exceeds 5 percent of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials applied by the press in that month, including all inboard and outboard stations; and

(B) The owner or operator maintains records as required in [§ 63.829\(f\)](#).

(3) The owner or operator of an affected source, as defined in [paragraph \(a\)\(2\)](#) of this section, may elect to include in that affected source stand-alone equipment subject to the following provisions:

(i) Stand-alone equipment meeting any of the criteria specified in this subparagraph is eligible for inclusion:

(A) The stand-alone equipment and one or more product and packaging rotogravure or wide-web flexographic presses are used to apply solids-containing materials to the same web or substrate; or

(B) The stand-alone equipment and one or more product and packaging rotogravure or wide-web flexographic presses apply a common solids-containing material; or

(C) A common control device is used to control organic HAP emissions from the stand-alone equipment and from one or more product and packaging rotogravure or wide-web flexographic printing presses;

(ii) All eligible stand-alone equipment located at the facility is included in the affected source; and

(iii) No product and packaging rotogravure or wide-web flexographic presses are excluded from the affected source under the provisions of [paragraph \(a\)\(2\)\(ii\)](#) of this section.

(4) The owner or operator of an affected source, as defined in [paragraph \(a\)\(2\)](#) of this section, may elect to include in that affected source narrow-web flexographic presses subject to the following provisions:

(i) Each narrow-web flexographic press meeting any of the criteria specified in this subparagraph is eligible for inclusion:

(A) The narrow-web flexographic press and one or more product and packaging rotogravure or wide-web flexographic presses are used to apply solids containing material to the same web or substrate; or

(B) The narrow-web flexographic press and one or more product and packaging rotogravure or wide-web flexographic presses apply a common solids-containing material; or

(C) A common control device is used to control organic HAP emissions from the narrow-web flexographic press and from one or more product and packaging rotogravure or wide-web flexographic presses; and

(ii) All eligible narrow-web flexographic presses located at the facility are included in the affected source.

(5) The owner or operator of an affected source, as defined in [paragraph \(a\)\(2\)](#) of this section, may elect to include in that affected source rotogravure proof presses or flexographic proof presses subject to the following provisions:

(i) Each proof press meeting any of the criteria specified in this subparagraph is eligible for inclusion.

(A) The proof press and one or more product and packaging rotogravure or wide-web flexographic presses apply a common solids-containing material; or

(B) A common control device is used to control organic HAP emissions from the proof press and from one or more product and packaging rotogravure or wide-web flexographic presses; and

(ii) All eligible proof presses located at the facility are included in the affected source.

(6) Affiliated operations such as mixing or dissolving of ink or coating ingredients prior to application; ink or coating mixing for viscosity adjustment, color tint or additive blending, or pH adjustment; cleaning of ink or coating lines and line parts; handling and storage of inks, coatings, and solvents; and conveyance and treatment of wastewater are part of the printing and publishing industry source category, but are not part of the product and packaging rotogravure or wide-web flexographic printing affected source.

(7) Other presses are part of the printing and publishing industry source category, but are not part of the publication rotogravure affected source or the product and packaging rotogravure or wide-web flexographic printing affected source and are, therefore, exempt from the requirements of this subpart except as provided in [paragraph \(a\)\(3\)](#) of this section.

(8) Narrow web-flexographic presses are part of the printing and publishing industry source category, but are not part of the publication rotogravure affected source or the product and packaging rotogravure or wide-web flexographic printing affected source and are, therefore, exempt from the requirements of this subpart except as provided in [paragraphs \(a\)\(3\)](#) through [\(5\)](#) of this section.

(b) Each product and packaging rotogravure or wide-web flexographic printing affected source at a facility that is a major source of HAP, as defined in [40 CFR 63.2](#), that complies with the criteria of paragraphs (b)(1) or (b)(2) on and after the applicable compliance date as specified in [§ 63.826 of this subpart](#) is subject only to the requirements of [§§ 63.829\(e\)](#) and [63.830\(b\)\(1\) of this subpart](#).

(1) The owner or operator of the affected source applies no more than 500 kilograms (kg) per month, for every month, of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, and other materials on product and packaging rotogravure or wide-web flexographic printing presses, or

(2) The owner or operator of the affected source applies no more than 400 kg per month, for every month, of organic HAP on product and packaging rotogravure or wide-web flexographic printing presses.

(c) Each product and packaging rotogravure or wide-web flexographic printing affected source at a facility that is a major source of HAP, as defined in [40 CFR 63.2](#), that complies with neither the criterion of paragraph (b)(1) nor (b)(2) of this section in any month after the applicable compliance date as specified in [§ 63.826 of this subpart](#) is, starting with that month, subject to all relevant requirements of this subpart and is no longer eligible to use the provisions of [paragraph \(b\)](#) of this section, even if in subsequent months the affected source does comply with the criteria of [paragraphs \(b\)\(1\)](#) or [\(b\)\(2\)](#) of this section.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29799](#), May 24, 2006]

## **§ 63.822 Definitions.**

(a) All terms used in this subpart that are not defined below have the meaning given to them in the CAA and in [subpart A of this part](#).

*Affirmative defense* means, in the context of an enforcement proceeding, a response or a defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

***Always-controlled work station*** means a work station associated with a dryer from which the exhaust is delivered to a control device, with no provision for the dryer exhaust to bypass the control device. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

***Capture efficiency*** means the fraction of all organic HAP emissions generated by a process that are delivered to a control device, expressed as a percentage.

***Capture system*** means a hood, enclosed room, or other means of collecting organic HAP emissions into a closed-vent system that exhausts to a control device.

***Car-seal*** means a seal that is placed on a device that is used to change the position of a valve or damper (e.g., from open to closed) in such a way that the position of the valve or damper cannot be changed without breaking the seal.

***Certified product data sheet (CPDS)*** means documentation furnished by suppliers of inks, coatings, varnishes, adhesives, primers, solvents, and other materials or by an independent third party that provides the organic HAP weight fraction of these materials determined in accordance with [§ 63.827\(b\)](#), or the volatile matter weight fraction or solids weight fraction determined in accordance with [§ 63.827\(c\)](#). A material safety data sheet (MSDS) may serve as a CPDS provided the MSDS meets the data requirements of [§ 63.827\(b\)](#) and [\(c\)](#). The purpose of the CPDS is to assist the owner or operator in demonstrating compliance with the emission limitations presented in [§§ 63.824-63.825](#).

***Coating*** means material applied onto or impregnated into a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, solvent-borne coatings, waterborne coatings, wax coatings, wax laminations, extrusion coatings, extrusion laminations, 100 percent solid adhesives, ultra-violet cured coatings, electron beam cured coatings, hot melt coatings, and cold seal coatings. Materials used to form unsupported substrates such as calendaring of vinyl, blown film, cast film, extruded film, and coextruded film are not considered coatings.

***Control device*** means a device such as a carbon adsorber or oxidizer which reduces the organic HAP in an exhaust gas by recovery or by destruction.

***Control device efficiency*** means the ratio of organic HAP emissions recovered or destroyed by a control device to the total organic HAP emissions that are introduced into the control device, expressed as a percentage.

***Day*** means a 24-consecutive-hour period.

***Facility*** means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

***Flexible packaging*** means any package or part of a package the shape of which can be readily changed. Flexible packaging includes, but is not limited to, bags, pouches, labels, liners and



wraps utilizing paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials.

***Flexographic press*** means an unwind or feed section, which may include more than one unwind or feed station (such as on a laminator), a series of individual work stations, one or more of which is a flexographic print station, any dryers (including interstage dryers and overhead tunnel dryers) associated with the work stations, and a rewind, stack, or collection section. The work stations may be oriented vertically, horizontally, or around the circumference of a single large impression cylinder. Inboard and outboard work stations, including those employing any other technology, such as rotogravure, are included if they are capable of printing or coating on the same substrate. A publication rotogravure press with one or more flexographic imprinters is not a flexographic press.

***Flexographic print station*** means a print station on which a flexographic printing operation is conducted. A flexographic print station includes an anilox roller that transfers material to a raised image (type or art) on a plate cylinder. The material is then transferred from the image on the plate cylinder to the web or sheet to be printed. A flexographic print station may include a fountain roller to transfer material from the reservoir to the anilox roller, or material may be transferred directly from the reservoir to the anilox roller. The materials applied are of a fluid, rather than paste, consistency.

***HAP applied*** means the organic HAP content of all inks, coatings, varnishes, adhesives, primers, solvent, and other materials applied to a substrate by a product and packaging rotogravure or wide-web flexographic printing affected source.

***HAP used*** means the organic HAP applied by a publication rotogravure printing affected source, including all organic HAP used for cleaning, parts washing, proof presses, and all organic HAP emitted during tank loading, ink mixing, and storage.

***Intermittently-controllable work station*** means a work station associated with a dryer with provisions for the dryer exhaust to be delivered to or diverted from a control device depending on the position of a valve or damper. Sampling lines for analyzers and relief valves needed for safety purposes are not considered bypass lines.

***Month*** means a calendar month or a prespecified period of 28 days to 35 days.

***Narrow-web flexographic press*** means a flexographic press that is not capable of printing substrates greater than 18 inches in width and that does not also meet the definition of rotogravure press (i.e., it has no rotogravure print stations).

***Never-controlled work station*** means a work station which is not equipped with provisions by which any emissions, including those in the exhaust from any associated dryer, may be delivered to a control device.

***Other press*** means a lithographic press, letterpress press, or screen printing press that does not meet the definition of rotogravure press or flexographic press (i.e., it has no rotogravure print

stations and no flexographic print stations), and that does not print on fabric or other textiles as defined in the Printing, Coating, and Dyeing of Fabrics and Other Textiles NESHAP ([40 CFR part 63, subpart OOOO](#)), wood furniture components as defined in the Wood Furniture Manufacturing Operations NESHAP ([40 CFR part 63, subpart JJ](#)) or wood building products as defined in the Surface Coating of Wood Building Products NESHAP ([40 CFR part 63, subpart QQQQ](#)).

**Overall Organic HAP control efficiency** means the total efficiency of a control system, determined either by:

- (1) The product of the capture efficiency and the control device efficiency or
- (2) A liquid-liquid material balance.

**Print station** means a work station on which a printing operation is conducted.

**Printing operation** means the formation of words, designs, or pictures on a substrate other than wood furniture components as defined in the Wood Furniture Manufacturing Operations NESHAP ([40 CFR part 63, subpart JJ](#)), wood building products as defined in the Surface Coating of Wood Building Products NESHAP ([40 CFR part 63, subpart QQQQ](#)), and fabric or other textiles as defined in the Printing, Coating, and Dyeing of Fabric and Other Textiles NESHAP ([40 CFR part 63, subpart OOOO](#)), except for fabric or other textiles for use in flexible packaging.

**Product and packaging rotogravure printing** means the production, on a rotogravure press, of any printed substrate not otherwise defined as publication rotogravure printing. This includes, but is not limited to, folding cartons, flexible packaging, labels and wrappers, gift wraps, wall and floor coverings, upholstery, decorative laminates, and tissue products.

**Proof press** means any press which prints only non-saleable items used to check the quality of image formation of rotogravure cylinders or flexographic plates; substrates such as paper, plastic film, metal foil, or vinyl; or ink, coating varnish, adhesive, primer, or other solids-containing material.

**Publication rotogravure press** means a rotogravure press used for publication rotogravure printing. A publication rotogravure press may include one or more flexographic imprinters. A publication rotogravure press with one or more flexographic imprinters is not a flexographic press.

**Publication rotogravure printing** means the production, on a rotogravure press, of the following saleable paper products:

- (1) Catalogues, including mail order and premium,
- (2) Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,

- (3) Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point of purchase and other printed display material,
- (4) Magazines,
- (5) Miscellaneous advertisements, including brochures, pamphlets, catalog sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,
- (6) Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections,
- (7) Periodicals, and
- (8) Telephone and other directories, including business reference services.

**Research or laboratory equipment** means any equipment for which the primary purpose is to conduct research and development into new processes and products, where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

**Rotogravure press** means an unwind or feed section, which may include more than one unwind or feed station (such as on a laminator), a series of individual work stations, one or more of which is a rotogravure print station, any dryers associated with the work stations, and a rewind, stack, or collection section. Inboard and outboard work stations, including those employing any other technology, such as flexography, are included if they are capable of printing or coating on the same substrate.

**Rotogravure print station** means a print station on which a rotogravure printing operation is conducted. A rotogravure print station includes a rotogravure cylinder and supply for ink or other solids containing material. The image (type and art) to be printed is etched or engraved below the surface of the rotogravure cylinder. On a rotogravure cylinder the printing image consists of millions of minute cells.

**Stand-alone equipment** means an unwind or feed section, which may include more than one unwind or feed station (such as on a laminator); a series of one or more work stations and any associated dryers; and a rewind, stack, or collection section that is not part of a product and packaging rotogravure or wide-web flexographic press. Stand-alone equipment is sometimes referred to as “off-line” equipment.

**Wide-web flexographic press** means a flexographic press capable of printing substrates greater than 18 inches in width.

**Work station** means a unit on which material is deposited onto a substrate.

(b) The symbols used in equations in this subpart are defined as follows:

(1)  $C_{ahi}$  = the monthly average, as-applied, organic HAP content of solids-containing material, i, expressed as a weight-fraction, kg/kg.

(2)  $C_{asi}$  = the monthly average, as applied, solids content, of solids-containing material, i, expressed as a weight-fraction, kg/kg.

(3)  $C_{hi}$  = the organic HAP content of ink or other solids-containing material, i, expressed as a weight-fraction, kg/kg.

(4)  $C_{hij}$  = the organic HAP content of solvent j, added to solids-containing material i, expressed as a weight-fraction, kg/kg.

(5)  $C_{hj}$  = the organic HAP content of solvent j, expressed as a weight-fraction, kg/kg.

(6) [Reserved]

(7)  $C_{si}$  = the solids content of ink or other material, i, expressed as a weight-fraction, kg/kg.

(8)  $C_{vi}$  = the volatile matter content of ink or other material, i, expressed as a weight-fraction, kg/kg.

(9) E = the organic volatile matter control efficiency of the control device, percent.

(10) F = the organic volatile matter capture efficiency of the capture system, percent.

(11)  $G_i$  = the mass fraction of each solids containing material, i, which was applied at 20 weight-percent or greater solids content, on an as-applied basis, kg/kg.

(12) H = the monthly organic HAP emitted, kg.

(13)  $H_a$  = the monthly allowable organic HAP emissions, kg.

(14)  $H_L$  = the monthly average, as-applied, organic HAP content of all solids-containing materials applied at less than 0.04 kg organic HAP per kg of material applied, kg/kg.

(15)  $H_s$  = the monthly average, as-applied, organic HAP to solids ratio, kg organic HAP/kg solids applied.

(16)  $H_{si}$  = the as-applied, organic HAP to solids ratio of material i.

(17) L = the mass organic HAP emission rate per mass of solids applied, kg/kg.

(18)  $M_{Bi}$  = the sum of the mass of solids-containing material, i, applied on intermittently-controllable work stations operating in bypass mode and the mass of solids-containing material, i, applied on never-controlled work stations, in a month, kg.

(19)  $M_{Bj}$  = the sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on intermittently-controllable work stations operating in bypass mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on never-controlled work stations, in a month, kg.

(20)  $M_{ci}$  = the sum of the mass of solids-containing material, i, applied on intermittently-controllable work stations operating in controlled mode and the mass of solids-containing material, i, applied on always-controlled work stations, in a month, kg.

(21)  $M_{cj}$  = the sum of the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on intermittently-controllable work stations operating in controlled mode and the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied on always-controlled work stations in a month, kg.

(22) [Reserved]

(23)  $M_{fi}$  = the organic volatile matter mass flow rate at the inlet to the control device, kg/h.

(24)  $M_{fo}$  = the organic volatile matter mass flow rate at the outlet of the control device, kg/h.

(25)  $M_{hu}$  = the mass of organic HAP used in a month, kg.

(26)  $M_i$  = the mass of ink or other material, i, applied in a month, kg.

(27)  $M_{ij}$  = the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, added to solids-containing material, i, in a month, kg.

(28)  $M_j$  = the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied in a month, kg.

(29)  $M_{Lj}$  = the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, added to solids-containing materials which were applied at less than 20 weight-percent solids content, on an as-applied basis, in a month, kg.

(30)  $M_{vr}$  = the mass of volatile matter recovered in a month, kg.

(31)  $M_{vu}$  = the mass of volatile matter, including water, used in a month, kg.

(32) [Reserved]

(33)  $n$  = the number of organic compounds in the vent gas.

(34)  $p$  = the number of different inks, coatings, varnishes, adhesives, primers, and other materials applied in a month.

(35)  $q$  = the number of different solvents, thinners, reducers, diluents, or other non-solids-containing materials applied in a month.

(36) [Reserved]

(37)  $R$  = the overall organic HAP control efficiency, percent.

(38)  $R_e$  = the overall effective organic HAP control efficiency for publication rotogravure, percent.

(39)  $R_v$  = the organic volatile matter collection and recovery efficiency, percent.

(40)  $S$  = the mass organic HAP emission rate per mass of material applied, kg/kg.

(41) 0.0416 = conversion factor for molar volume, kg-mol/m<sup>3</sup>(@ 293 K and 760 mmHg).

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29800](#), May 24, 2006; [76 FR 22598](#), Apr. 21, 2011]

## **§ 63.823 Standards: General.**

(a) Table 1 to this subpart provides cross references to the [40 CFR part 63, subpart A](#), general provisions, indicating the applicability of the general provisions requirements to this subpart KK.

(b) Each owner or operator of an affected source subject to this subpart must at all times operate and maintain that 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.

[[76 FR 22598](#), Apr. 21, 2011]

## **§ 63.824 Standards: Publication rotogravure printing.**

(a) Each owner or operator of any publication rotogravure printing affected source that is subject to the requirements of this subpart shall comply with these requirements on and after the compliance dates as specified in [§ 63.826 of this subpart](#).

(b) Each publication rotogravure affected source shall limit emissions of organic HAP to no more than eight percent of the total volatile matter used each month. The emission limitation may be achieved by overall control of at least 92 percent of organic HAP used, by substitution of non-HAP materials for organic HAP, or by a combination of capture and control technologies and substitution of materials. To demonstrate compliance, each owner or operator shall follow the procedure in [paragraph \(b\)\(1\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device, the procedure in [paragraph \(b\)\(2\)](#) of this section when emissions from the affected source are controlled by an oxidizer, and the procedure in [paragraph \(b\)\(3\)](#) of this section when no control device is used.

(1) Each owner or operator using a solvent recovery device to control emissions shall demonstrate compliance by showing that the HAP emission limitation is achieved by following the procedures in either [paragraph \(b\)\(1\)\(i\)](#) or [\(b\)\(1\)\(ii\)](#) of this section:

(i) Perform a liquid-liquid material balance for each month as follows:

(A) Measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material used by the affected source during the month.

(B) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent and other material used by the affected source during the month following the procedure in [§ 63.827\(b\)\(1\)](#).

(C) Determine the volatile matter content, including water, of each ink, coating, varnish, adhesive, primer, solvent, and other material used by the affected source during the month following the procedure in [§ 63.827\(c\)\(1\)](#).

(D) Install, calibrate, maintain and operate, according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device shall be initially certified by the manufacturer to be accurate to within  $\pm 2.0$  percent.

(E) Measure the amount of volatile matter recovered for the month.

(F) Calculate the overall effective organic HAP control efficiency ( $R_e$ ) for the month using Equation 1:

$$R_e = (100) \frac{M_{vu} - M_{hu} + [(M_{vr})(M_{hu} / M_{vu})]}{M_{vu}} \quad \text{Eq 1}$$

For the purposes of this calculation, the mass fraction of organic HAP present in the recovered volatile matter is assumed to be equal to the mass fraction of organic HAP present in the volatile matter used.

(G) The affected source is in compliance for the month, if  $R_e$  is at least 92 percent each month.

(ii) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency as specified in [paragraphs \(b\)\(1\)\(ii\)\(A\) through \(b\)\(1\)\(ii\)\(E\)](#) of this section:

(A) Install continuous emission monitors to collect the data necessary to calculate the total organic volatile matter mass flow in the gas stream entering and the total organic volatile matter mass flow in the gas stream exiting the solvent recovery device for each month such that the percent control efficiency (E) of the solvent recovery device can be calculated for the month. This requires continuous emission monitoring of the total organic volatile matter concentration in the gas stream entering the solvent recovery device, the total organic volatile matter concentration in the gas stream exiting the solvent recovery device, and the volumetric gas flow rate through the solvent recovery device. A single continuous volumetric gas flow measurement should be sufficient for a solvent recovery device since the inlet and outlet volumetric gas flow rates for a solvent recovery device are essentially equal. Each month's individual inlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream entering the solvent recovery device for the month. Each month's individual outlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream exiting the solvent recovery device for the month.

(B) Determine the percent capture efficiency (F) of the capture system according to [§ 63.827\(e\)](#).

(C) Calculate the overall effective organic HAP control efficiency ( $R_e$ ) achieved for each month using Equation 2.

$$R_e = (100) \frac{M_{vu} - M_{hu} + [(E/100)(F/100)M_{hu}]}{M_{vu}} \quad \text{Eq 2}$$

(D) Install, calibrate, operate and maintain the instrumentation necessary to measure continuously the site-specific operating parameter established in accordance with [§ 63.828\(a\)\(5\)](#) whenever a publication rotogravure printing press is operated.

(E) The affected source is in compliance with the requirement for the month if  $R_e$  is at least 92 percent, and the capture device is operated at an average value greater than, or less than (as appropriate) the operating parameter value established in accordance with [§ 63.828\(a\)\(5\)](#) for each three-hour period.



(2) Each owner or operator using an oxidizer to control emissions shall demonstrate compliance by showing that the HAP emission limitation is achieved by following the procedure in either [paragraph \(b\)\(2\)\(i\)](#) or [\(b\)\(2\)\(ii\)](#) of this section:

(i) Demonstrate initial compliance through performance tests and continuing compliance through continuous monitoring as follows:

(A) Determine the oxidizer destruction efficiency (E) using the procedure in [§ 63.827\(d\)](#).

(B) Determine the capture efficiency (F) using the procedure in [§ 63.827\(e\)](#).

(C) [Reserved]

(D) Calculate the overall effective organic HAP control efficiency ( $R_e$ ) achieved using Equation 2.

(E) The affected source is in initial compliance if  $R_e$  is at least 92 percent. Demonstration of continuing compliance is achieved by continuous monitoring of an appropriate oxidizer operating parameter in accordance with [§ 63.828\(a\)\(4\)](#), and by continuous monitoring of an appropriate capture system monitoring parameter in accordance with [§ 63.828\(a\)\(5\)](#). The affected source is in continuing compliance if the capture device is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with [§ 63.828\(a\)\(5\)](#), and

(1) if an oxidizer other than a catalytic oxidizer is used, the average combustion temperature for all three-hour periods is greater than or equal to the average combustion temperature established under [§ 63.827\(d\)](#), or

(2) if a catalytic oxidizer is used, the average catalyst bed inlet temperature for all three-hour periods is greater than or equal to the average catalyst bed inlet temperature established in accordance with [§ 63.827\(d\)](#).

(ii) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency. The percent control efficiency of the oxidizer shall be demonstrated in accordance with the requirements of [paragraph \(b\)\(1\)\(ii\)](#) of this section except that separate continuous measurements of the inlet volumetric gas flow rate and the outlet volumetric gas flow rate are required for an oxidizer.

(3) To demonstrate compliance without the use of a control device, each owner or operator shall compare the mass of organic HAP used to the mass of volatile matter used each month, as specified in [paragraphs \(b\)\(3\)\(i\)](#) through [\(b\)\(3\)\(iv\)](#) of this section:

(i) Measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material used in the affected source during the month.

(ii) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material used during the month following the procedure in [§ 63.827\(b\)\(1\)](#), and

(iii) Determine the volatile matter content, including water, of each ink, coating, varnish, adhesive, primer, solvent, and other material used during the month following the procedure in [§ 63.827\(c\)\(1\)](#).

(iv) The affected source is in compliance for the month if the mass of organic HAP used does not exceed eight percent of the mass of volatile matter used.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29801](#), May 24, 2006]

## **§ 63.825 Standards: Product and packaging rotogravure and wide-web flexographic printing.**

(a) Each owner or operator of any product and packaging rotogravure or wide-web flexographic printing affected source that is subject to the requirements of this subpart shall comply with these requirements on and after the compliance dates as specified in [§ 63.826 of this subpart](#).

(b) Each product and packaging rotogravure or wide-web flexographic printing affected source shall limit organic HAP emissions to no more than 5 percent of the organic HAP applied for the month; or to no more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month; or to no more than 20 percent of the mass of solids applied for the month; or to a calculated equivalent allowable mass based on the organic HAP and solids contents of the inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month. The owner or operator of each product and packaging rotogravure or wide-web flexographic printing affected source shall demonstrate compliance with this standard by following one of the procedures in [paragraphs \(b\)\(1\) through \(b\)\(10\)](#) of this section:

(1) Demonstrate that each ink, coating, varnish, adhesive, primer, solvent, diluent, reducer, thinner, and other material applied during the month contains no more than 0.04 weight-fraction organic HAP, on an as-purchased basis, as determined in accordance with [§ 63.827\(b\)\(2\)](#).

(2) Demonstrate that each ink, coating, varnish, adhesive, primer, and other solids-containing material applied during the month contains no more than 0.04 weight-fraction organic HAP, on a monthly average as-applied basis as determined in accordance with paragraphs (b)(2)(i)-(ii) of this section. The owner or operator shall calculate the as-applied HAP content of materials which are reduced, thinned, or diluted prior to application, as follows:

(i) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, diluent, reducer, thinner, and other material applied on an as-purchased basis in accordance with [§ 63.827\(b\)\(2\)](#).

(ii) Calculate the monthly average as-applied organic HAP content,  $C_{ahi}$  of each ink, coating, varnish, adhesive, primer, and other solids-containing material using Equation 3.

$$C_{ahi} = \frac{\left( C_{hi}M_i + \sum_{j=1}^q C_{hij}M_{ij} \right)}{M_i + \sum_{j=1}^q M_{ij}} \quad \text{Eq 3}$$

(3)

(i) Demonstrate that each ink, coating, varnish, adhesive, primer, and other solids-containing material applied, either

(A) Contains no more than 0.04 weight-fraction organic HAP on a monthly average as-applied basis, or

(B) Contains no more than 0.20 kg of organic HAP per kg of solids applied, on a monthly average as-applied basis.

(ii) The owner or operator may demonstrate compliance in accordance with paragraphs (b)(3)(ii) (A)-(C) of this section.

(A) Use the procedures of [paragraph \(b\)\(2\)](#) of this section to determine which materials meet the requirements of [paragraph \(b\)\(3\)\(i\)\(A\)](#) of this section,

(B) Determine the as-applied solids content following the procedure in [§ 63.827\(c\)\(2\)](#) of all materials which do not meet the requirements of [paragraph \(b\)\(3\)\(i\)\(A\)](#) of this section. The owner or operator may calculate the monthly average as-applied solids content of materials which are reduced, thinned, or diluted prior to application, using Equation 4, and

$$C_{asi} = \frac{C_{si}M_i}{M_i + \sum_{j=1}^q M_{ij}} \quad \text{Eq 4}$$

(C) Calculate the as-applied organic HAP to solids ratio,  $H_{si}$ , for all materials which do not meet the requirements of [paragraph \(b\)\(3\)\(i\)\(A\)](#) of this section, using Equation 5.

$$H_{si} = \frac{C_{ahi}}{C_{asi}} \quad \text{Eq 5}$$

(4) Demonstrate that the monthly average as-applied organic HAP content,  $H_L$ , of all materials applied is less than 0.04 kg HAP per kg of material applied, as determined by Equation 6.

$$H_L = \frac{\sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_j} \quad \text{Eq 6}$$

(5) Demonstrate that the monthly average as-applied organic HAP content on the basis of solids applied,  $H_s$ , is less than 0.20 kg HAP per kg solids applied as determined by Equation 7.

$$H_s = \frac{\sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj}}{\sum_{i=1}^p M_i C_{si}} \quad \text{Eq 7}$$

(6) Demonstrate that the total monthly organic HAP applied,  $H_{app}$ , as determined by Equation 8, is less than the calculated equivalent allowable organic HAP,  $H_a$ , as determined by [paragraph \(e\)](#) of this section.

$$H_{app} = \sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj} \quad \text{Eq. 8}$$

Where:

$H_{app}$  = Total monthly organic HAP applied, kg.

(7) Operate a capture system and control device and demonstrate an overall organic HAP control efficiency of at least 95 percent for each month. If the affected source operates more than one capture system or more than one control device, and has only always-controlled work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of either [paragraph \(f\)](#) or [\(h\)](#) of this section. If the affected source operates one or more never-controlled work stations or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of [paragraph \(f\)](#) of this section. Otherwise, the owner or operator shall demonstrate compliance in accordance with the procedure in [paragraph \(c\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in [paragraph \(d\)](#) of this section when emissions are controlled by an oxidizer.

(8) Operate a capture system and control device and limit the organic HAP emission rate to no more than 0.20 kg organic HAP emitted per kg solids applied as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of [paragraph \(f\)](#) of this section. Otherwise, the owner or operator shall demonstrate compliance following the procedure in [paragraph \(c\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in [paragraph \(d\)](#) of this section when emissions are controlled by an oxidizer.

(9) Operate a capture system and control device and limit the organic HAP emission rate to no more than 0.04 kg organic HAP emitted per kg material applied as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of [paragraph \(f\)](#) of this section. Otherwise, the owner or operator shall demonstrate compliance following the procedure in [paragraph \(c\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in [paragraph \(d\)](#) of this section when emissions are controlled by an oxidizer.

(10) Operate a capture system and control device and limit the monthly organic HAP emissions to less than the allowable emissions as calculated in accordance with [paragraph \(e\)](#) of this section. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations, then the owner or operator shall demonstrate compliance in accordance with the provisions of [paragraph \(f\)](#) of this section. Otherwise, the owner or operator shall demonstrate compliance following the procedure in [paragraph \(c\)](#) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in [paragraph \(d\)](#) of this section when emissions are controlled by an oxidizer.

(c) To demonstrate compliance with the overall organic HAP control efficiency requirement in [§ 63.825\(b\)\(7\)](#) or the organic HAP emissions limitation requirements in [§ 63.825\(b\)\(8\)-\(10\)](#), each owner or operator using a solvent recovery device to control emissions shall show compliance by following the procedures in either [paragraph \(c\)\(1\)](#) or [\(c\)\(2\)](#) of this section:

(1) Perform a liquid-liquid material balance for each and every month as follows:

- (i) Measure the mass of each ink, coating, varnish, adhesive, primer, solvent and other material applied on the press or group of presses controlled by a common solvent recovery device during the month.
- (ii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in [§ 63.827\(b\)\(2\)](#).
- (iii) Determine the volatile matter content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in [§ 63.827\(c\)\(2\)](#).
- (iv) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, determine the solids content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in [§ 63.827\(c\)\(2\)](#).
- (v) Install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device shall be initially certified by the manufacturer to be accurate to within  $\pm 2.0$  percent.
- (vi) Measure the amount of volatile matter recovered for the month.
- (vii) Calculate the volatile matter collection and recovery efficiency,  $R_v$ , using Equation 9.

$$R_v = 100 \frac{M_{vr}}{\sum_{i=1}^p M_i C_{vi} + \sum_{j=1}^q M_j} \quad \text{Eq 9}$$

- (viii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, calculate the organic HAP emitted during the month,  $H$ , using Equation 10.

$$H = \left[ 1 - \frac{R_v}{100} \right] \left[ \sum_{i=1}^p \left( C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} \right) \right] \quad \text{Eq 10}$$

(ix) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, calculate the organic HAP emission rate based on solids applied, L, using Equation 11.

$$L = \frac{H}{\sum_{i=1}^p C_{si} M_i} \quad \text{Eq 11}$$

(x) If demonstrating compliance on the basis of organic HAP emission rate based on materials applied, calculate the organic HAP emission rate based on material applied, S, using Equation 12.

$$S = \frac{H}{\sum_{i=1}^p \left[ M_i + \sum_{j=1}^q M_{ij} \right]} \quad \text{Eq 12}$$

(xi) The affected source is in compliance if

(A) The organic volatile matter collection and recovery efficiency,  $R_v$ , is 95 percent or greater, or

(B) The organic HAP emission rate based on solids applied, L, is 0.20 kg organic HAP per kg solids applied or less, or

(C) the organic HAP emission rate based on material applied, S, is 0.04 kg organic HAP per kg material applied or less, or

(D) the organic HAP emitted during the month, H, is less than the calculated allowable organic HAP,  $H_a$ , as determined using [paragraph \(e\)](#) of this section.

(2) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency following the procedures in [paragraphs \(c\)\(2\)\(i\)](#) through [\(c\)\(2\)\(xi\)](#) of this section:

(i) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on materials applied, or emission of less than the calculated allowable organic HAP, measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material applied on the press or group of presses controlled by a common control device during the month.

(ii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in [§ 63.827\(b\)\(2\)](#).

(iii) Install continuous emission monitors to collect the data necessary to calculate the total organic volatile matter mass flow in the gas stream entering and the total organic volatile mass flow in the gas stream exiting the solvent recovery device for each month such that the percent control efficiency (E) of the solvent recovery device can be calculated for the month. This requires continuous emission monitoring of the total organic volatile matter concentration in the gas stream entering the solvent recovery device, the total organic volatile matter concentration in the gas stream exiting the solvent recovery device, and the volumetric gas flow rate through the solvent recovery device. A single continuous volumetric gas flow measurement should be sufficient for a solvent recovery device since the inlet and outlet volumetric gas flow rates for a solvent recovery device are essentially equal. Each month's individual inlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream entering the solvent recovery device for the month. Each month's individual outlet concentration values and corresponding individual gas flow rate values are multiplied and then summed to get the total organic volatile matter mass flow in the gas stream exiting the solvent recovery device for the month.

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, determine the solids content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in [§ 63.827\(c\)\(2\)](#).

(v) Install, calibrate, operate and maintain the instrumentation necessary to measure continuously the site-specific operating parameter established in accordance with [§ 63.828\(a\)\(5\)](#) whenever a product and packaging rotogravure or wide-web flexographic printing press is operated.

(vi) Determine the capture efficiency (F) in accordance with [§ 63.827\(e\)-\(f\)](#).

(vii) Calculate the overall organic HAP control efficiency, (R), achieved for each month using Equation 13.



$$R = \frac{EF}{100} \quad \text{Eq 13}$$

(viii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, calculate the organic HAP emitted during the month, H, for each month using Equation 14.

$$H = \left[ 1 - \left( \frac{E}{100} \frac{F}{100} \right) \right] \left[ \sum_{i=1}^p \left( C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} \right) \right] \quad \text{Eq 14}$$

(ix) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, calculate the organic HAP emission rate based on solids applied, L, using Equation 15.

$$L = \frac{H}{\sum_{i=1}^p C_{si} M_i} \quad \text{Eq 15}$$

(x) If demonstrating compliance on the basis of organic HAP emission rate based on materials applied, calculate the organic HAP emission rate based on material applied, S, using Equation 16.

$$S = \frac{H}{\sum_{i=1}^p \left[ M_i + \sum_{j=1}^q M_{ij} \right]} \quad \text{Eq 16}$$

(xi) The affected source is in compliance if the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with [§ 63.828\(a\)\(5\)](#) for each three hour period, and

(A) The organic volatile matter collection and recovery efficiency,  $R_v$ , is 95 percent or greater, or

(B) The organic HAP emission rate based on solids applied, L, is 0.20 kg organic HAP per kg solids applied or less, or

(C) The organic HAP emission rate based on material applied, S, is 0.04 kg organic HAP per kg material applied or less, or

(D) The organic HAP emitted during the month, H, is less than the calculated allowable organic HAP,  $H_a$ , as determined using [paragraph \(e\)](#) of this section.

(d) To demonstrate compliance with the overall organic HAP control efficiency requirement in [§ 63.825\(b\)\(7\)](#) or the overall organic HAP emission rate limitation requirements in [§ 63.825\(b\)\(8\)-\(10\)](#), each owner or operator using an oxidizer to control emissions shall show compliance by following the procedures in either [paragraph \(d\)\(1\)](#) or [\(d\)\(2\)](#) of this section:

(1) Demonstrate initial compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters following the procedures in [paragraph \(d\)\(1\)\(i\)](#) through [\(d\)\(1\)\(xi\)](#) of this section:

(i) Determine the oxidizer destruction efficiency (E) using the procedure in [§ 63.827\(d\)](#).

(ii) Determine the capture system capture efficiency (F) in accordance with [§ 63.827\(e\)-\(f\)](#).

(iii) Calculate the overall organic HAP control efficiency, (R), achieved using Equation 13.

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on materials applied, or emission of less than the calculated allowable organic HAP, measure the mass of each ink, coating, varnish, adhesive, primer, solvent, and other material applied on the press or group of presses controlled by a common control device during the month.

(v) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in [§ 63.827\(b\)\(2\)](#).

(vi) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, determine the solids content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in [§ 63.827\(c\)\(2\)](#).

(vii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, organic HAP emission rate based on material applied or emission of less than the calculated allowable organic HAP, calculate the organic HAP emitted during the month, H, for each month using Equation 14.

(viii) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied, calculate the organic HAP emission rate based on solids applied,  $L$ , for each month using Equation 15.

(ix) If demonstrating compliance on the basis of organic HAP emission rate based on materials applied, calculate the organic HAP emission rate based on material applied,  $S$ , using Equation 16.

(x) Install, calibrate, operate and maintain the instrumentation necessary to measure continuously the site-specific operating parameters established in accordance with [§ 63.828\(a\)\(4\)-\(5\)](#) whenever a product and packaging rotogravure or wide-web flexographic press is operating.

(xi) The affected source is in compliance, if the oxidizer is operated such that the average operating parameter value is greater than the operating parameter value established in accordance with [§ 63.828\(a\)\(4\)](#) for each three-hour period, and the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with [§ 63.828\(a\)\(5\)](#) for each three hour period, and

(A) The overall organic HAP control efficiency,  $R$ , is 95 percent or greater, or

(B) The organic HAP emission rate based on solids applied,  $L$ , is 0.20 kg organic HAP per kg solids applied or less, or

(C) The organic HAP emission rate based on material applied,  $S$ , is 0.04 kg organic HAP per kg material applied or less, or

(D) The organic HAP emitted during the month,  $H$ , is less than the calculated allowable organic HAP,  $H_a$ , as determined using [paragraph \(e\)](#) of this section.

(2) Use continuous emission monitors, conduct an initial performance test of capture efficiency, and continuously monitor a site specific operating parameter to assure capture efficiency. The percent control efficiency of the oxidizer shall be demonstrated in accordance with the requirements of [paragraph \(c\)\(2\)](#) of this section except that separate continuous volumetric gas flow measurements of the inlet and outlet volumetric gas flow rates are required for an oxidizer.

(e) Owners or operators may calculate the monthly allowable HAP emissions,  $H_a$ , for demonstrating compliance in accordance with [paragraph \(b\)\(6\)](#), [\(c\)\(1\)\(xi\)\(D\)](#), [\(c\)\(2\)\(xi\)\(D\)](#), or [\(d\)\(1\)\(xi\)\(D\)](#) of this section as follows:

(1) Determine the as-purchased mass of each ink, coating, varnish, adhesive, primer, and other solids-containing material applied each month,  $M_i$ .

(2) Determine the as-purchased solids content of each ink, coating, varnish, adhesive, primer, and other solids-containing material applied each month, in accordance with [§ 63.827\(c\)\(2\)](#),  $C_{si}$ .

(3) Determine the as-purchased mass fraction of each ink, coating, varnish, adhesive, primer, and other solids-containing material which was applied at 20 weight-percent or greater solids content, on an as-applied basis,  $G_i$ .

(4) Determine the total mass of each solvent, diluent, thinner, or reducer added to materials which were applied at less than 20 weight-percent solids content, on an as-applied basis, each month,  $M_{Lj}$ .

(5) Calculate the monthly allowable HAP emissions,  $H_a$ , using Equation 17.

$$H_a = 0.20 \left[ \sum_{i=1}^p M_i G_i C_{si} \right] + 0.04 \left[ \sum_{i=1}^p M_i (1 - G_i) + \sum_{j=1}^q M_{Lj} \right] \quad \text{Eq 17}$$

(f) Owners or operators of product and packaging rotogravure or wide-web flexographic printing presses shall demonstrate compliance according to the procedures in [paragraphs \(f\)\(1\) through \(f\)\(7\)](#) of this section if the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controllable work stations.

(1) The owner or operator of each solvent recovery system used to control one or more product and packaging rotogravure or wide-web flexographic presses for which the owner or operator chooses to comply by means of a liquid-liquid mass balance shall determine the organic HAP emissions for those presses controlled by that solvent recovery system either

(i) in accordance with paragraphs (c)(1)(i)-(iii) and (c)(1)(v)-(viii) of this section if the presses controlled by that solvent recovery system have only always-controlled work stations, or

(ii) in accordance with paragraphs (c)(1)(ii)-(iii), (c)(1)(v)-(vi), and (g) of this section if the presses controlled by that solvent recovery system have one or more never-controlled or intermittently-controllable work stations.

(2) The owner or operator of each solvent recovery system used to control one or more product and packaging rotogravure or wide-web flexographic presses, for which the owner or operator chooses to comply by means of an initial test of capture efficiency, continuous emission monitoring of the control device, and continuous monitoring of a capture system operating parameter, shall

(i) For each capture system delivering emissions to that solvent recovery system, monitor an operating parameter established in accordance with [§ 63.828\(a\)\(5\)](#) to assure capture system efficiency, and

(ii) Determine the organic HAP emissions for those presses served by each capture system delivering emissions to that solvent recovery system either

(A) In accordance with paragraphs (c)(2)(i)-(iii) and (c)(2)(v)-(viii) of this section if the presses served by that capture system have only always-controlled work stations, or

(B) In accordance with paragraphs (c)(2)(ii)-(iii), (c)(2)(v)-(vii), and (g) of this section if the presses served by that capture system have one or more never-controlled or intermittently-controllable work stations.

(3) The owner or operator of each oxidizer used to control emissions from one or more product and packaging rotogravure or wide-web flexographic presses choosing to demonstrate compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters, shall

(i) Monitor an operating parameter established in accordance with [§ 63.828\(a\)\(4\)](#) to assure control device efficiency, and

(ii) For each capture system delivering emissions to that oxidizer, monitor an operating parameter established in accordance with [§ 63.828\(a\)\(5\)](#) to assure capture efficiency, and

(iii) Determine the organic HAP emissions for those presses served by each capture system delivering emissions to that oxidizer either

(A) In accordance with paragraphs (d)(1)(i)-(v) and (d)(1)(vii) of this section if the presses served by that capture system have only always-controlled work stations, or

(B) In accordance with paragraphs (d)(1)(i)-(iii), (d)(1)(v), and (g) of this section if the presses served by that capture system have one or more never-controlled or intermittently-controllable work stations.

(4) The owner or operator of each oxidizer used to control emissions from one or more product and packaging rotogravure or wide-web flexographic presses choosing to demonstrate compliance through an initial capture efficiency test, continuous emission monitoring of the control device and continuous monitoring of a capture system operating parameter, shall

(i) For each capture system delivering emissions to that oxidizer, monitor an operating parameter established in accordance with [§ 63.828\(a\)\(5\)](#) to assure capture efficiency, and

(ii) Determine the organic HAP emissions for those presses served by each capture system delivering emissions to that oxidizer either

(A) In accordance with paragraphs (c)(2)(i)-(iii) and (c)(2)(v)-(viii) of this section if the presses served by that capture system have only always-controlled work stations, or

(B) In accordance with paragraphs (c)(2)(ii)-(iii), (c)(2)(v)-(vii), and (g) of this section if the presses served by that capture system have one or more never-controlled or intermittently-controllable work stations.

(5) The owner or operator of one or more uncontrolled product and packaging rotogravure or wide-web flexographic printing presses shall determine the organic HAP applied on those presses using Equation 8. The organic HAP emitted from an uncontrolled press is equal to the organic HAP applied on that press.

(6) If demonstrating compliance on the basis of organic HAP emission rate based on solids applied or emission of less than the calculated allowable organic HAP, the owner or operator shall determine the solids content of each ink, coating, varnish, adhesive, primer, solvent and other material applied during the month following the procedure in [§ 63.827\(c\)\(2\)](#).

(7) The owner or operator shall determine the organic HAP emissions for the affected source for the month by summing all organic HAP emissions calculated according to [paragraphs \(f\)\(1\), \(f\)\(2\)\(ii\), \(f\)\(3\)\(iii\), \(f\)\(4\)\(ii\), and \(f\)\(5\)](#) of this section. The affected source is in compliance for the month, if all operating parameters required to be monitored under paragraphs (f)(2)-(4) of this section were maintained at the appropriate values, and

(i) The total mass of organic HAP emitted by the affected source was not more than four percent of the total mass of inks, coatings, varnishes, adhesives, primers, solvents, diluents, reducers, thinners and other materials applied by the affected source, or

(ii) The total mass of organic HAP emitted by the affected source was not more than 20 percent of the total mass of solids applied by the affected source, or

(iii) The total mass of organic HAP emitted by the affected source was not more than the equivalent allowable organic HAP emissions for the affected source,  $H_a$ , calculated in accordance with [paragraph \(e\)](#) of this section, or

(iv) The total mass of organic HAP emitted by the affected source was not more than five percent of the total mass of organic HAP applied by the affected source. The total mass of organic HAP applied by the affected source in the month shall be determined by the owner or operator using Equation 8.

(g) Owners or operators determining organic HAP emissions from a press or group of presses having one or more never-controlled or intermittently-controllable work stations and using the procedures specified in [paragraphs \(f\)\(1\)\(ii\), \(f\)\(2\)\(ii\)\(B\), \(f\)\(3\)\(iii\)\(B\), or \(f\)\(4\)\(ii\)\(B\)](#) of this section shall for that press or group of presses:

(1) Determine the sum of the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on intermittently-controllable work stations in bypass mode and the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on never-controlled work stations during the month,  $M_{Bi}$ .

(2) Determine the sum of the mass of all solvents, reducers, thinners, and other diluents which are applied on intermittently-controllable work stations in bypass mode and the mass of all solvents, reducers, thinners, and other diluents which are applied on never-controlled work stations during the month,  $M_{Bj}$ .

(3) Determine the sum of the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on intermittently-controllable work stations in controlled mode and the mass of all inks, coatings, varnishes, adhesives, primers, and other solids-containing materials which are applied on always-controlled work stations during the month,  $M_{Bj}$ .

(4) Determine the sum of the mass of all solvents, reducers, thinners, and other diluents which are applied on intermittently-controllable work stations in controlled mode and the mass of all solvents, reducers, thinners, and other diluents which are applied on always-controlled work stations during the month,  $M_{Cj}$ .

(5) For each press or group of presses for which the owner or operator uses the provisions of [paragraph \(f\)\(1\)\(ii\)](#) of this section, the owner or operator shall calculate the organic HAP emitted during the month using Equation 18.

$$H = \left[ \sum_{i=1}^p M_{Ci} C_{hi} + \sum_{j=1}^q M_{Cj} C_{hj} \right] \left[ 1 - \frac{M_{vr}}{\sum_{i=1}^p M_{Ci} C_{vi} + \sum_{j=1}^q M_{Cj}} \right] + \left[ \sum_{i=1}^p M_{Bi} C_{hi} + \sum_{j=1}^q M_{Bj} C_{hj} \right]$$

(6) For each press or group of presses for which the owner or operator uses the provisions of [paragraphs \(f\)\(2\)\(ii\)\(B\)](#), [\(f\)\(3\)\(iii\)\(B\)](#), or [\(f\)\(4\)\(ii\)\(B\)](#) of this section, the owner or operator shall calculate the organic HAP emitted during the month using Equation (19).

$$H = \left[ \sum_{i=1}^p M_{Ci} C_{hi} + \sum_{j=1}^q M_{Cj} C_{hj} \right] \left[ 1 - \left( \frac{E}{100} \frac{F}{100} \right) \right] + \left[ \sum_{i=1}^p M_{Bi} C_{hi} + \sum_{j=1}^q M_{Bj} C_{hj} \right]$$

(h) If the affected source operates more than one capture system or more than one control device, and has no never-controlled work stations and no intermittently-controllable work



stations, then the affected source is in compliance with the 95 percent overall organic HAP control efficiency requirement for the month if for each press or group of presses controlled by a common control device:

(1) The volatile matter collection and recovery efficiency,  $R_v$ , as determined by paragraphs (c)(1)(i), (c)(1)(iii), and (c)(1)(v)-(vii) of this section is equal to or greater than 95 percent, or

(2) The overall organic HAP control efficiency as determined by paragraphs (c)(2)(iii) and (c)(2)(v)-(vii) of this section for each press or group of presses served by that control device and a common capture system is equal to or greater than 95 percent and the average capture system operating parameter value for each capture system serving that control device is greater than or less than (as appropriate) the operating parameter value established for that capture system in accordance with [§ 63.828\(a\)\(5\)](#) for each three hour period, or

(3) The overall organic HAP control efficiency as determined by paragraphs (d)(1)(i)-(iii) and (d)(1)(x) of this section for each press or group of presses served by that control device and a common capture system is equal to or greater than 95 percent, the oxidizer is operated such that the average operating parameter value is greater than the operating parameter value established in accordance with [§ 63.828\(a\)\(4\)](#) for each three hour period, and the average capture system operating parameter value for each capture system serving that control device is greater than or less than (as appropriate) the operating parameter value established for that capture system in accordance with [§ 63.828\(a\)\(5\)](#) for each three hour period.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29801](#), May 24, 2006]

## **§ 63.826 Compliance dates.**

(a) The compliance date for an owner or operator of an existing affected source subject to the provisions of this subpart is May 30, 1999.

(b) The compliance date for an owner or operator of a new affected source subject to the provisions of this subpart is immediately upon start-up of the affected source, or May 30, 1996, whichever is later.

(c) Affected sources which have undergone reconstruction are subject to the requirements for new affected sources. The costs associated with the purchase and installation of air pollution control equipment are not considered in determining whether the affected source has been reconstructed. Additionally, the costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart are not considered reconstruction costs.

## **§ 63.827 Performance test methods.**

Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period



being tested. 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.

(a) An owner or operator using a control device to comply with the requirements of [§§ 63.824-63.825](#) is not required to conduct an initial performance test to demonstrate compliance if one or more of the criteria in [paragraphs \(a\)\(1\) through \(a\)\(3\)](#) of this section are met:

(1) A control device that is in operation prior to May 30, 1996, does not need to be tested if

(i) It is equipped with continuous emission monitors for determining total organic volatile matter concentration and the volumetric gas flow rate, and capture efficiency has been determined in accordance with the requirements of this subpart, such that an overall organic HAP control efficiency can be calculated, and

(ii) The continuous emission monitors are used to demonstrate continuous compliance in accordance with [§ 63.824\(b\)\(1\)\(ii\)](#), [§ 63.825\(b\)\(2\)\(ii\)](#), [§ 63.825\(c\)\(2\)](#), or [§ 63.825\(d\)\(2\)](#), as applicable, and [§ 63.828](#), or

(2) The owner or operator has met the requirements of either [§ 63.7\(e\)\(2\)\(iv\)](#) or [§ 63.7\(h\)](#), or

(3) The control device is a solvent recovery system and the owner or operator chooses to comply by means of a monthly liquid-liquid material balance.

(b) Determination of the weight fraction organic HAP of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, diluents, and other materials used by a publication rotogravure affected source shall be conducted according to [paragraph \(b\)\(1\)](#) of this section. Determination of the weight fraction organic HAP of inks, coatings, varnishes, adhesives, primers, solvents, thinners, reducers, diluents, and other materials applied by a product and packaging rotogravure or wide-web flexographic printing affected source shall be conducted according to [paragraph \(b\)\(2\)](#) of this section. If the weight fraction organic HAP values are not determined using the procedures in [paragraphs \(b\)\(1\) or \(b\)\(2\)](#) of this section, the owner or operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with [§ 63.7\(f\)](#). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.

(1) Each owner or operator of a publication rotogravure affected source shall determine the weight fraction organic HAP of each ink, coating, varnish, adhesive, primer, solvent, and other material used by following one of the procedures in [paragraphs \(b\)\(1\)\(i\) through \(iii\)](#) of this section:

(i) The owner or operator may test the material in accordance with Method 311 of [appendix A of this part](#). The Method 311 determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The organic HAP content determined by Method 311 must be calculated according to the criteria and procedures in [paragraphs \(b\)\(1\)\(i\)\(A\) through \(C\)](#) of this section.

(A) Include each organic HAP determined to be present at greater than or equal to 0.1 weight percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in [29 CFR 1910.1200\(d\)\(4\)](#) and greater than or equal to 1.0 weight percent for other organic HAP compounds.

(B) Express the weight fraction of each organic HAP included according to [paragraph \(b\)\(1\)\(i\)\(A\)](#) of this section as a value truncated to four places after the decimal point (for example, 0.3791).

(C) Calculate the total weight fraction of organic HAP in the tested material by summing the weight fraction of each organic HAP included according to [paragraph \(b\)\(1\)\(i\)\(A\)](#) of this section and truncating the result to three places after the decimal point (for example, 0.763).

(ii) The owner or operator may determine the weight fraction volatile matter of the material in accordance with [§ 63.827\(c\)\(1\)](#) and use this value for the weight fraction organic HAP for all compliance purposes.

(iii) The owner or operator may use formulation data to determine the weight fraction organic HAP of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. Formulation data may be used provided that the weight fraction organic HAP is calculated according to the criteria and procedures in [paragraphs \(b\)\(1\)\(iii\)\(A\) through \(D\)](#) of this section. In the event of an inconsistency between the formulation data and the result of Method 311 of [appendix A of this part](#), where the test result is higher, the Method 311 data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(A) For each raw material used in making the material, include each organic HAP present in that raw material at greater than or equal to 0.1 weight percent for OSHA-defined carcinogens as specified in [29 CFR 1910.1200\(d\)\(4\)](#) and greater than or equal to 1.0 weight percent for other organic HAP compounds. The weight fraction of each such organic HAP in each raw material must be determined by Method 311 of [appendix A of this part](#), by an alternate method approved by the Administrator, or from a CPDS provided by the raw material supplier or an independent third party. The weight fraction of each such organic HAP in each raw material must be expressed as a value truncated to four places after the decimal point (for example, 0.1291).

(B) For each raw material used in making the material, the weight fraction contribution of each organic HAP, which is included according to [paragraph \(b\)\(1\)\(iii\)\(A\)](#) of this section, in that raw material to the weight fraction organic HAP of the material is calculated by multiplying the weight fraction, truncated to four places after the decimal point (for example, 0.1291), of that organic HAP in that raw material times the weight fraction of that raw material, truncated to four places after the decimal point (for example, 0.2246), in the material. The product of each such multiplication is to be truncated to four places

after the decimal point (for example, 0.1291 times 0.2246 yields 0.02899586 which truncates to 0.0289).

(C) For each organic HAP which is included according to [paragraph \(b\)\(1\)\(iii\)\(A\)](#) of this section, the total weight fraction of that organic HAP in the material is calculated by adding the weight fraction contribution of that organic HAP from each raw material in which that organic HAP is included according to [paragraph \(b\)\(1\)\(iii\)\(A\)](#) of this section. The sum of each such addition must be expressed to four places after the decimal point.

(D) The total weight fraction of organic HAP in the material is the sum of the counted individual organic HAP weight fractions. This sum must be truncated to three places after the decimal point (for example, 0.763).

(2) Each owner or operator of a product and packaging rotogravure or wide-web flexographic printing affected source shall determine the organic HAP weight fraction of each ink, coating, varnish, adhesive, primer, solvent, and other material applied by following one of the procedures in [paragraphs \(b\)\(2\)\(i\)](#) through [\(iii\)](#) of this section:

(i) The owner or operator may test the material in accordance with Method 311 of [appendix A of this part](#). The Method 311 determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The organic HAP content determined by Method 311 must be calculated according to the criteria and procedures in [paragraphs \(b\)\(2\)\(i\)\(A\)](#) through [\(C\)](#) of this section.

(A) Include each organic HAP determined to be present at greater than or equal to 0.1 weight percent for OSHA-defined carcinogens as specified in [29 CFR 1910.1200\(d\)\(4\)](#) and greater than or equal to 1.0 weight percent for other organic HAP compounds.

(B) Express the weight fraction of each organic HAP included according to [paragraph \(b\)\(2\)\(i\)\(A\)](#) of this section as a value truncated to four places after the decimal point (for example, 0.3791).

(C) Calculate the total weight fraction of organic HAP in the tested material by summing the weight fraction of each organic HAP included according to [paragraph \(b\)\(2\)\(i\)\(A\)](#) of this section and truncating the result to three places after the decimal point (for example, 0.763).

(ii) The owner or operator may determine the weight fraction volatile matter of the material in accordance with [§ 63.827\(c\)\(2\)](#) and use this value for the weight fraction organic HAP for all compliance purposes.

(iii) The owner or operator may use formulation data to determine the weight fraction organic HAP of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. Formulation data may be used provided that the weight fraction organic HAP is calculated according to the criteria and procedures in [paragraphs \(b\)\(2\)\(iii\)\(A\)](#) through [\(D\)](#) of this section. In the event

of an inconsistency between the formulation data and the result of Method 311 of [appendix A of this part](#), where the test result is higher, the Method 311 data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(A) For each raw material used in making the material, include each organic HAP present in that raw material at greater than or equal to 0.1 weight percent for OSHA-defined carcinogens as specified in [29 CFR 1910.1200\(d\)\(4\)](#) and greater than or equal to 1.0 weight percent for other organic HAP compounds. The weight fraction of each such organic HAP in each raw material must be determined by Method 311 of [appendix A of this part](#), by an alternate method approved by the Administrator, or from a CPDS provided by the raw material supplier or an independent third party. The weight fraction of each such organic HAP in each raw material must be expressed as a value truncated to four places after the decimal point (for example, 0.1291).

(B) For each raw material used in making the material, the weight fraction contribution of each organic HAP, which is included according to [paragraph \(b\)\(2\)\(iii\)\(A\)](#) of this section, in that raw material to the weight fraction organic HAP of the material is calculated by multiplying the weight fraction, truncated to four places after the decimal point (for example, 0.1291), of that organic HAP in that raw material times the weight fraction of that raw material, truncated to four places after the decimal point (for example, 0.2246), in the material. The product of each such multiplication is truncated to four places after the decimal point (for example, 0.1291 times 0.2246 yields 0.02899586 which truncates to 0.0289).

(C) For each organic HAP which is included according to [paragraph \(b\)\(2\)\(iii\)\(A\)](#) of this section, the total weight fraction of that organic HAP in the material is calculated by adding the weight fraction contribution of that organic HAP from each raw material in which that organic HAP is included according to [paragraph \(b\)\(2\)\(iii\)\(A\)](#) of this section. The sum of each such addition must be expressed to four places after the decimal point.

(D) The total weight fraction of organic HAP in the material is the sum of the counted individual organic HAP weight fractions. This sum is to be truncated to three places after the decimal point (for example, 0.763).

(c) Determination of the weight fraction volatile matter content of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, diluents, and other materials used by a publication rotogravure affected source shall be conducted according to [paragraph \(c\)\(1\)](#) of this section. Determination of the weight fraction volatile matter content and weight fraction solids content of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, diluents, and other materials applied by a product and packaging rotogravure or wide-web flexographic printing affected source shall be conducted according to [paragraph \(c\)\(2\)](#) of this section.

(1) Each owner or operator of a publication rotogravure affected source shall determine the volatile matter weight fraction of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, diluent, and other material used by following the procedures in [paragraph](#)

[\(b\)\(1\)\(i\)](#) of this section, or by using formulation data as described in [paragraph \(c\)\(3\)](#) of this section.

(i) Determine the volatile matter weight fraction of the material using Method 24A of [40 CFR part 60, appendix A](#). The Method 24A determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The Method 24A result shall be truncated to three places after the decimal point (for example, 0.763). If these values cannot be determined using Method 24A, the owner or operator shall submit an alternative technique for determining their values for approval by the Administrator.

(2) Each owner or operator of a product and packaging rotogravure or wide-web flexographic printing affected source shall determine the volatile matter weight fraction and solids weight fraction of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, diluent, and other material applied by following the procedures in [paragraphs \(b\)\(2\)\(i\) and \(ii\)](#) of this section, or by using formulation data as described in [paragraph \(c\)\(3\)](#) of this section.

(i) Determine the volatile matter weight fraction of the material using Method 24 of [40 CFR part 60, appendix A](#). The Method 24 determination may be performed by the owner or operator of the affected source, the supplier of the material, or an independent third party. The Method 24 result shall be truncated to three places after the decimal point (for example, 0.763). If these values cannot be determined using Method 24, the owner or operator shall submit an alternative technique for determining their values for approval by the Administrator.

(ii) Calculate the solids weight fraction Method 24 result by subtracting the volatile matter weight fraction Method 24 result from 1.000. This calculation may be performed by the owner or operator, the supplier of the material, or an independent third party.

(3) The owner or operator may use formulation data to determine the volatile matter weight fraction or solids weight fraction of a material. Formulation data may be provided to the owner or operator on a CPDS by the supplier of the material or an independent third party. The volatile matter weight fraction and solids weight fraction shall be truncated to three places after the decimal point (for example, 0.763). In the event of any inconsistency between the formulation data and the result of Method 24 or Method 24A of [40 CFR part 60, appendix A](#), where the test result for volatile matter weight fraction is higher or the test result for solids weight fraction is lower, the applicable test method data will take precedence unless, after consultation, the owner or operator can demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(d) A performance test of a control device to determine destruction efficiency for the purpose of meeting the requirements of [§§ 63.824-63.825](#) shall be conducted by the owner or operator in accordance with the following:

(1) An initial performance test to establish the destruction efficiency of an oxidizer and the associated combustion zone temperature for a thermal oxidizer and the associated catalyst

bed inlet temperature for a catalytic oxidizer shall be conducted and the data reduced in accordance with the following reference methods and procedures:

- (i) Method 1 or 1A of [40 CFR part 60, appendix A](#) is used for sample and velocity traverses to determine sampling locations.
- (ii) Method 2, 2A, 2C, or 2D of [40 CFR part 60, appendix A](#) is used to determine gas volumetric flow rate.
- (iii) Method 3 of [40 CFR part 60, appendix A](#) is used for gas analysis to determine dry molecular weight.
- (iv) Method 4 of [40 CFR part 60, appendix A](#) is used to determine stack gas moisture.
- (v) Methods 2, 2A, 3, and 4 of [40 CFR part 60, appendix A](#) shall be performed, as applicable, at least twice during each test period.
- (vi) Method 25 of [40 CFR part 60, appendix A](#), shall be used to determine organic volatile matter concentration, except as provided in [paragraphs \(d\)\(1\)\(vi\)\(A\) through \(D\)](#) of this section. The owner or operator shall submit notice of the intended test method to the Administrator for approval along with notice of the performance test required under [§ 63.7\(c\)](#). The same method must be used for both the inlet and outlet measurements. The owner or operator may use Method 25A of [40 CFR part 60, appendix A](#), if
  - (A) An exhaust gas organic volatile matter concentration of 50 parts per million by volume (ppmv) or less as carbon is required to comply with the standards of [§§ 63.824-63.825](#), or
  - (B) The organic volatile matter concentration at the inlet to the control system and the required level of control are such to result in exhaust gas organic volatile matter concentrations of 50 ppmv or less as carbon, or
  - (C) Because of the high efficiency of the control device, the anticipated organic volatile matter concentration at the control device exhaust is 50 ppmv or less as carbon, regardless of inlet concentration, or
  - (D) The control device is not an oxidizer.
- (vii) Each performance test shall consist of three separate runs; each run conducted for at least one hour under the conditions that exist when the affected source is operating under normal operating conditions. For the purpose of determining organic volatile matter concentrations and mass flow rates, the average of results of all runs shall apply.
- (viii) Organic volatile matter mass flow rates shall be determined using Equation 20:



$$M_f = Q_{sd} C_c [12.0] [0.0416] [10^{-6}] \quad \text{Eq. 20}$$

Where:

$M_f$  = Total organic volatile matter mass flow rate, kg/hour (h).

$Q_{sd}$  = Volumetric flow rate of gases entering or exiting the control device, as determined according to [§ 63.827\(d\)\(1\)\(ii\)](#), dry standard cubic meters (dscm)/h.

$C_c$  = Concentration of organic compounds as carbon, ppmv.

12.0 = Molecular weight of carbon.

0.0416 = Conversion factor for molar volume, kg-moles per cubic meter (mol/m<sup>3</sup>) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

(ix) Emission control device efficiency shall be determined using Equation 21:

$$E = \frac{M_{fi} - M_{fo}}{M_{fi}} \quad \text{Eq 21}$$

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance test. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) For the purpose of determining the value of the oxidizer operating parameter that will demonstrate continuing compliance, the time-weighted average of the values recorded during the performance test shall be computed. For an oxidizer other than catalytic oxidizer, the owner or operator shall establish as the operating parameter the minimum combustion temperature. For a catalytic oxidizer, the owner or operator shall establish as the operating parameter the minimum gas temperature upstream of the catalyst bed. These minimum temperatures are the operating parameter values that demonstrate continuing compliance with the requirements of [§§ 63.824-63.825](#).

(e) A performance test to determine the capture efficiency of each capture system venting organic emissions to a control device for the purpose of meeting the requirements of [§ 63.824\(b\)\(1\)\(ii\)](#), [§ 63.824\(b\)\(2\)](#), [§ 63.825\(c\)\(2\)](#), [§ 63.825\(d\)\(1\)-\(2\)](#), [§ 63.825\(f\)\(2\)-\(4\)](#), or [§ 63.825\(h\)\(2\)-\(3\)](#) shall be conducted by the owner or operator in accordance with the following:

(1) You may assume your capture efficiency equals 100 percent if your capture system is a permanent total enclosure (PTE). You must confirm that your capture system is a PTE by demonstrating that it meets the requirements of section 6 of Method 204 of [40 CFR part 51, appendix M](#), and that all exhaust gases from the enclosure are delivered to a control device.

(2) You may determine capture efficiency according to the protocols for testing with temporary total enclosures that are specified in Methods 204 and 204A through F of [40 CFR part 51, appendix M](#). You may exclude never controlled work stations from such capture efficiency determinations.

(f) As an alternative to the procedures specified in [§ 63.827\(e\)](#) an owner or operator required to conduct a capture efficiency test may use any capture efficiency protocol and test methods that satisfy the criteria of either the Data Quality Objective (DQO) or the Lower Confidence Limit (LCL) approach as described in Appendix A of this subpart. The owner or operator may exclude never-controlled work stations from such capture efficiency determinations.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29802](#), May 24, 2006; [76 FR 22598](#), Apr. 21, 2011]

## **§ 63.828 Monitoring requirements.**

(a) Following the date on which the initial performance test of a control device is completed, to demonstrate continuing compliance with the standard, the owner or operator shall monitor and inspect each control device required to comply with [§§ 63.824-63.825](#) to ensure proper operation and maintenance by implementing the applicable requirements in [paragraph \(a\)\(1\)](#) through [\(a\)\(5\)](#) of this section.

(1) Owners or operators of product and packaging rotogravure or wide-web flexographic presses with intermittently-controllable work stations shall follow one of the procedures in [paragraphs \(a\)\(1\)\(i\)](#) through [\(a\)\(1\)\(iv\)](#) of this section for each dryer associated with such a work station:

(i) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that provides a record indicating whether the exhaust stream from the dryer was directed to the control device or was diverted from the control device. The time and flow control position must be recorded at least once per hour, as well as every time the flow direction is changed. The flow control position indicator shall be installed at the entrance to any bypass line that could divert the exhaust stream away from the control device to the atmosphere.

(ii) Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration; a visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve or damper is maintained in the closed position and the exhaust stream is not diverted through the bypass line.

(iii) Ensure that any bypass line valve or damper is in the closed position through continuous monitoring of valve position. The monitoring system shall be inspected at least once every month to ensure that it is functioning properly.



(iv) Use an automatic shutdown system in which the press is stopped when flow is diverted away from the control device to any bypass line. The automatic system shall be inspected at least once every month to ensure that it is functioning properly.

(2) Compliance monitoring shall be subject to the provisions of [paragraphs \(a\)\(2\)\(i\) and \(a\)\(2\)\(ii\)](#) of this section, as applicable.

(i) All continuous emission monitors shall comply with performance specifications (PS) 8 or 9 of [40 CFR part 60, appendix B](#), as appropriate. The requirements of appendix F of [40 CFR part 60](#) shall also be followed. In conducting the quarterly audits required by appendix F, owners or operators must challenge the monitors with compounds representative of the gaseous emission stream being controlled.

(ii) All temperature monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers specifications. The calibration of the chart recorder, data logger, or temperature indicator shall be verified every three months; or the chart recorder, data logger, or temperature indicator shall be replaced. The replacement shall be done either if the owner or operator chooses not to perform the calibration, or if the equipment cannot be calibrated properly.

(3) An owner or operator complying with [§§ 63.824-63.825](#) through continuous emission monitoring of a control device shall install, calibrate, operate, and maintain continuous emission monitors to measure total organic volatile matter concentration and volumetric gas flow rate in accordance with [§ 63.824\(b\)\(1\)\(ii\)](#), [§ 63.825\(b\)\(2\)\(ii\)](#), [§ 63.825\(c\)\(2\)](#), or [§ 63.825\(d\)\(2\)](#), as applicable.

(4) An owner or operator complying with the requirements of [§§ 63.824-63.825](#) through the use of an oxidizer and demonstrating continuous compliance through monitoring of an oxidizer operating parameter shall:

(i) For an oxidizer other than a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of  $\pm 1$  percent of the temperature being monitored in  $^{\circ}\text{C}$  or  $\pm 1^{\circ}\text{C}$ , whichever is greater. The thermocouple or temperature sensor shall be installed in the combustion chamber at a location in the combustion zone.

(ii) For a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of  $\pm 1$  percent of the temperature being monitored in  $^{\circ}\text{C}$  or  $\pm 1^{\circ}\text{C}$ , whichever is greater. The thermocouple or temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet.

(5) An owner or operator complying with the requirements of [§§ 63.824-63.825](#) through the use of a control device and demonstrating continuous compliance by monitoring an operating parameter to ensure that the capture efficiency measured during the initial compliance test is maintained, shall:

(i) Submit to the Administrator with the compliance status report required by [§ 63.9\(h\)](#) of the General Provisions, a plan that

(A) Identifies the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained,

(B) Discusses why this parameter is appropriate for demonstrating ongoing compliance, and

(C) Identifies the specific monitoring procedures;

(ii) Set the operating parameter value, or range of values, that demonstrate compliance with [§§ 63.824-63.825](#), and

(iii) Conduct monitoring in accordance with the plan submitted to the Administrator unless comments received from the Administrator require an alternate monitoring scheme.

(b) Any excursion from the required operating parameters which are monitored in accordance with [paragraphs \(a\)\(4\)](#) and [\(a\)\(5\)](#) of this section, unless otherwise excused, shall be considered a violation of the emission standard.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29804](#), May 24, 2006]

## **§ 63.829 Recordkeeping requirements.**

(a) The recordkeeping provisions of [40 CFR part 63 subpart A](#) of this part that apply and those that do not apply to owners and operators of affected sources subject to this subpart are listed in Table 1 of this subpart.

(b) Each owner or operator of an affected source subject to this subpart shall maintain the records specified in [paragraphs \(b\)\(1\)](#) through [\(b\)\(3\)](#) of this section on a monthly basis in accordance with the requirements of [§ 63.10\(b\)\(1\) of this part](#):

(1) Records specified in [§ 63.10\(b\)\(2\) of this part](#), of all measurements needed to demonstrate compliance with this standard, such as continuous emission monitor data, control device and capture system operating parameter data, material usage, HAP usage, volatile matter usage, and solids usage that support data that the source is required to report.

(2) Records specified in [§ 63.10\(b\)\(3\) of this part](#) for each applicability determination performed by the owner or operator in accordance with the requirements of [§ 63.820\(a\) of this subpart](#), and

(3) Records specified in [§ 63.10\(c\) of this part](#) for each continuous monitoring system operated by the owner or operator in accordance with the requirements of [§ 63.828\(a\) of this subpart](#).

(c) Each owner or operator of an affected source subject to this subpart shall maintain records of all liquid-liquid material balances performed in accordance with the requirements of [§§ 63.824-63.825 of this subpart](#). The records shall be maintained in accordance with the requirements of [§ 63.10\(b\) of this part](#).

(d) The owner or operator of each facility which commits to the criteria of [§ 63.820\(a\)\(2\)](#) shall maintain records of all required measurements and calculations needed to demonstrate compliance with these criteria, including the mass of all HAP containing materials used and the mass fraction of HAP present in each HAP containing material used, on a monthly basis.

(e) The owner or operator of each facility which meets the limits and criteria of [§ 63.821\(b\)\(1\)](#) shall maintain records as required in [paragraph \(e\)\(1\)](#) of this section. The owner or operator of each facility which meets the limits and criteria of [§ 63.821\(b\)\(2\)](#) shall maintain records as required in [paragraph \(e\)\(2\)](#) of this section. Owners or operators shall maintain these records for five years, and upon request, submit them to the Administrator.

(1) For each facility which meets the criteria of [§ 63.821\(b\)\(1\)](#), the owner or operator shall maintain records of the total mass of each material applied on product and packaging rotogravure or wide-web flexographic printing presses during each month.

(2) For each facility which meets the criteria of [§ 63.821\(b\)\(2\)](#), the owner or operator shall maintain records of the total mass and organic HAP content of each material applied on product and packaging rotogravure or wide-web flexographic printing presses during each month.

(f) The owner or operator choosing to exclude from an affected source, a product and packaging rotogravure or wide-web flexographic press which meets the limits and criteria of [§ 63.821\(a\)\(2\)\(ii\)\(A\)](#) shall maintain the records specified in [paragraphs \(f\)\(1\)](#) and [\(f\)\(2\)](#) of this section for five years and submit them to the Administrator upon request:

(1) The total mass of each material applied each month on the press, including all inboard and outboard stations, and

(2) The total mass of each material applied each month on the press by product and packaging rotogravure or wide-web flexographic printing operations.

(g) Each owner or operator of an affected source subject to this subpart shall maintain records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment), air pollution control equipment, or monitoring equipment.

(h) Each owner or operator of an affected source subject to this subpart shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with [§ 63.823\(b\)](#), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29804](#), May 24, 2006; [76 FR 22598](#), Apr. 21, 2011]

## § 63.830 Reporting requirements.

(a) The reporting provisions of [40 CFR part 63 subpart A](#) of this part that apply and those that do not apply to owners and operators of affected sources subject to this subpart are listed in Table 1 of this subpart.

(b) Each owner or operator of an affected source subject to this subpart shall submit the reports specified in [paragraphs \(b\)\(1\) through \(b\)\(6\)](#) of this section to the Administrator:

(1) An initial notification required in [§ 63.9\(b\)](#).

(i) Initial notifications for existing sources shall be submitted no later than one year before the compliance date specified in [§ 63.826\(a\)](#), or no later than 120 days after the source becomes subject to this subpart, whichever is later.

(ii) Initial notifications for new and reconstructed sources shall be submitted as required by [§ 63.9\(b\)](#).

(iii) For the purpose of this subpart, a Title V or part 70 permit application may be used in lieu of the initial notification required under [§ 63.9\(b\)](#), provided the same information is contained in the permit application as required by [§ 63.9\(b\)](#), and the State to which the permit application has been submitted has an approved operating permit program under [part 70 of this chapter](#) and has received delegation of authority from the EPA.

(iv) Permit applications shall be submitted by the same due dates as those specified for the initial notifications.

(2) A Notification of Performance Tests specified in [§§ 63.7 and 63.9\(e\) of this part](#). This notification, and the site-specific test plan required under [§ 63.7\(c\)\(2\)](#) shall identify the operating parameter to be monitored to ensure that the capture efficiency measured during the performance test is maintained. The operating parameter identified in the site-specific test plan shall be considered to be approved unless explicitly disapproved, or unless comments received from the Administrator require monitoring of an alternate parameter.

(3) A Notification of Compliance Status specified in [§ 63.9\(h\) of this part](#).

(4) Performance test reports specified in [§ 63.10\(d\)\(2\) of this part](#).

(5) [Reserved]

(6) A summary report specified in [§ 63.10\(e\)\(3\) of this part](#) shall be submitted on a semi-annual basis (i.e., once every 6-month period). These summary reports are required even if the affected source does not have any control devices or does not take the performance of any

control devices into account in demonstrating compliance with the emission limitations in [§ 63.824](#) or [§ 63.825](#). In addition to a report of operating parameter exceedances as required by [§ 63.10\(e\)\(3\)\(i\)](#), the summary report shall include, as applicable:

- (i) Exceedances of the standards in [§§ 63.824-63.825](#).
  - (ii) Exceedances of either of the criteria of [§ 63.820\(a\)\(2\)](#).
  - (iii) Exceedances of the criterion of [§ 63.821\(b\)\(1\)](#) and the criterion of [§ 63.821\(b\)\(2\)](#) in the same month.
  - (iv) Exceedances of the criterion of [§ 63.821\(a\)\(2\)\(ii\)\(A\)](#).
  - (v) The number, duration, and a brief description for each type of malfunction which occurred during the reporting period 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 [§ 63.823\(b\)](#), including actions taken to correct a malfunction.
- (c)
- (1) As of January 1, 2012, and within 60 days after the date of completing each performance test, as defined in [§ 63.2](#) and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data Exchange by using the ERT (see [http://www.epa.gov/ttn/chief/ert/ert\\_tool.html/](http://www.epa.gov/ttn/chief/ert/ert_tool.html/)) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.
  - (2) All reports required by this subpart not subject to the requirements in [paragraph \(c\)\(1\)](#) of this section must be sent to the Administrator at the appropriate address listed in [§ 63.13](#). If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to [paragraph \(c\)\(1\)](#) of this section in paper format.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29804](#), May 24, 2006; [76 FR 22598](#), Apr. 21, 2011; [85 FR 73895](#), Nov. 19, 2020]

## **§ 63.831 Implementation and enforcement.**

(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 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 [\(4\)](#) of this section.

(1) Approval of alternatives to the requirements in [§§ 63.820](#) through [63.821](#) and [63.823](#) through [63.826](#).

(2) Approval of alternatives to the test method for organic HAP content determination in [§ 63.827\(b\)](#) and alternatives to the test method for volatile matter in [§ 63.827\(c\)](#), and major alternatives to other 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 monitoring under [§ 63.8\(f\)](#), as defined in [§ 63.90](#), and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under [§ 63.10\(f\)](#), as defined in [§ 63.90](#), and as required in this subpart.

[[68 FR 37354](#), June 23, 2003]

## §§ 63.832-63.839 [Reserved]

### Table 1 to Subpart KK of Part 63 - Applicability of General Provisions to Subpart KK

| General provisions reference | Applicable to subpart KK | Comment                             |
|------------------------------|--------------------------|-------------------------------------|
| § 63.1(a)(1)-(a)(4)          | Yes.                     |                                     |
| § 63.1(a)(5)                 | No                       | Section reserved.                   |
| § 63.1(a)(6)-(a)(8)          | No.                      |                                     |
| § 63.1(a)(9)                 | No                       | Section reserved.                   |
| § 63.1(a)(10)-(a)(14)        | Yes.                     |                                     |
| § 63.1(b)(1)                 | No                       | Subpart KK specifies applicability. |
| § 63.1(b)(2)-(b)(3)          | Yes.                     |                                     |

| <b>General provisions reference</b> | <b>Applicable to subpart KK</b> | <b>Comment</b>                              |
|-------------------------------------|---------------------------------|---|
| § 63.1(c)(1)                        | Yes.                            |   |
| § 63.1(c)(2)                        | No                              | Area sources are not subject to subpart KK. |
| § 63.1(c)(3)                        | No                              | Section reserved.                           |
| § 63.1(c)(4)                        | Yes.                            |   |
| § 63.1(c)(5)                        | No.                             |   |
| § 63.1(c)(6)                        | Yes                             |   |
| § 63.1(d)                           | No                              | Section reserved.                           |
| § 63.1(e)                           | Yes.                            |   |
| § 63.2                              | Yes                             | Additional definitions in subpart KK.       |
| § 63.3(a)-(c)                       | Yes.                            |   |
| § 63.4(a)(1)-(a)(3)                 | Yes.                            |   |
| § 63.4(a)(4)                        | No                              | Section reserved.                           |
| § 63.4(a)(5)                        | Yes.                            |   |
| § 63.4(b)-(c)                       | Yes.                            |   |
| § 63.5(a)(1)-(a)(2)                 | Yes.                            |   |
| § 63.5(b)(1)                        | Yes.                            |   |
| § 63.5(b)(2)                        | No                              | Section reserved.                           |
| § 63.5(b)(3)-(b)(6)                 | Yes.                            |   |
| § 63.5(c)                           | No                              | Section reserved.                           |
| § 63.5(d)                           | Yes.                            |   |
| § 63.5(e)                           | Yes.                            |   |
| § 63.5(f)                           | Yes.                            |   |
| § 63.6(a)                           | Yes.                            |   |
| § 63.6(b)(1)-(b)(5)                 | Yes.                            |   |
| § 63.6(b)(6)                        | No                              | Section reserved.                           |
| § 63.6(b)(7)                        | Yes.                            |   |
| § 63.6(c)(1)-(c)(2)                 | Yes.                            |   |
| § 63.6(c)(3)-(c)(4)                 | No                              | Sections reserved.                          |
| § 63.6(c)(5)                        | Yes.                            |   |
| § 63.6(d)                           | No                              | Section reserved.                           |

| <b>General provisions reference</b> | <b>Applicable to subpart KK</b> | <b>Comment</b>  |
|-------------------------------------|---------------------------------|---|
| § 63.6(e)(1)(i)                     | No                              | See 63.823(b) for general duty requirement. Any cross-reference to 63.6(e)(1)(i) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.823(b). |
| § 63.6(e)(1)(ii)                    | No                              |   |
| § 63.6(e)(1)(iii)                   | Yes.                            | Section reserved.   |
| § 63.6(e)(2)                        | No                              |   |
| § 63.6(e)(3)                        | No                              |   |
| § 63.6(f)(1)                        | No                              |   |
| § 63.6(f)(2)-(f)(3)                 | Yes.                            |   |
| § 63.6(g)                           | Yes.                            | Subpart KK does not require COMS.   |
| § 63.6(h)                           | No                              |   |
| § 63.6(i)(1)-(i)(14)                | Yes.                            |   |
| § 63.6(i)(15)                       | No                              |   |
| § 63.6(i)(16)                       | Yes.                            |   |
| § 63.6(j)                           | Yes.                            | See 63.827 introductory text. Any cross-reference to 63.7(e)(1) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.827 introductory text.   |
| § 63.7(a)-(d)                       | Yes.                            |   |
| § 63.7(e)(1)                        | No                              |   |
| § 63.7(e)(2)-(e)(4)                 | Yes.                            |   |
| § 63.8(a)(1)-(a)(2)                 | Yes.                            |   |
| § 63.8(a)(3)                        | No                              | Section reserved.   |
| § 63.8(a)(4)                        | No                              | Subpart KK specifies the use of solvent recovery devices or oxidizers.  |
| § 63.8(b)                           | Yes.                            | Subpart KK specifies CMS sampling requirements.   |
| § 63.8(c)(1)-(3)                    | Yes.                            |   |
| § 63.8(c)(4)                        | No                              |   |
| § 63.8(c)(5)                        | No                              |   |
| § 63.8(c)(6)-(c)(8)                 | Yes                             |   |
| § 63.8(d)(1)-(2)                    | Yes.                            | Provisions for COMS are not applicable.   |
| § 63.8(d)(3)                        | Yes, except for last sentence.  |   |



| <b>General provisions reference</b> | <b>Applicable to subpart KK</b> | <b>Comment</b>   |
|-------------------------------------|---------------------------------|--|
| § 63.8(e)-(f)                       | Yes.                            |  |
| § 63.8(g)                           | No                              | Subpart KK specifies CMS data reduction requirements.  |
| § 63.9(a)                           | Yes.                            |  |
| § 63.9(b)(1)                        | Yes.                            |  |
| § 63.9(b)(2)                        | Yes                             | Initial notification submission date extended.   |
| § 63.9(b)(3)-(b)(5)                 | Yes.                            |  |
| § 63.9(c)-(e)                       | Yes.                            |  |
| § 63.9(f)                           | No                              | Subpart KK does not require opacity and visible emissions observations.  |
| § 63.9(g)                           | Yes                             | Provisions for COMS are not applicable.  |
| § 63.9(h)(1)-(h)(3)                 | Yes.                            |  |
| § 63.9(h)(4)                        | No                              | Section reserved.  |
| § 63.9(h)(5)-(h)(6)                 | Yes.                            |  |
| § 63.9(i)                           | Yes.                            |  |
| § 63.9(j)                           | Yes.                            |  |
| § 63.9(k)                           | Yes                             | Only as specified in 63.9(j).  |
| § 63.10(a)                          | Yes.                            |  |
| § 63.10(b)(1)                       | Yes.                            |  |
| § 63.10(b)(2)(i)                    | No.                             |  |
| § 63.10(b)(2)(ii)                   | No                              | See 63.829(g) for recordkeeping of occurrence and duration of malfunctions. See 63.829(h) for recordkeeping of actions taken during malfunction. Any cross-reference to 63.10(b)(2)(ii) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.829(g). |
| § 63.10(b)(2)(iii)                  | Yes.                            |  |
| § 63.10(b)(2)(iv)-(b)(2)(v)         | No.                             |  |
| § 63.10(b)(2)(vi)-(b)(2)(xiv)       | Yes.                            |  |
| § 63.10(b)(3)                       | Yes.                            |  |
| § 63.10(c)(1)                       | Yes.                            |  |
| § 63.10(c)(2)-(c)(4)                | No                              | Sections reserved.   |
| § 63.10(c)(5)-(c)(8)                | Yes.                            |  |

| General provisions reference | Applicable to subpart KK | Comment  |
|------------------------------|--------------------------|--|
| § 63.10(c)(9)                | No                       | Section reserved.  |
| § 63.10(c)(10)               | No                       | See 63.830(b)(6)(v) for reporting malfunctions. Any cross-reference to 63.10(c)(10) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.830(b)(6)(v). |
| § 63.10(c)(11)               | No                       | See 63.830(b)(6)(v) for reporting malfunctions. Any cross-reference to 63.10(c)(11) in any other general provision incorporated by reference shall be treated as a cross-reference to 63.830(b)(6)(v). |
| § 63.10(c)(12)-(c)(14)       | Yes.                     |  |
| § 63.10(c)(15)               | No.                      |  |
| § 63.10(d)(1)-(d)(2)         | Yes.                     |  |
| § 63.10(d)(3)                | No                       | Subpart KK does not require opacity and visible emissions observations.  |
| § 63.10(d)(4)                | Yes.                     |  |
| § 63.10(d)(5)                | No.                      |  |
| § 63.10(e)                   | Yes                      | Provisions for COMS are not applicable.  |
| § 63.10(f)                   | Yes.                     |  |
| § 63.11                      | No                       | Subpart KK specifies the use of solvent recovery devices or oxidizers.   |
| § 63.12                      | Yes.                     |  |
| § 63.13                      | Yes.                     |  |
| § 63.14                      | Yes.                     |  |
| § 63.15                      | Yes.                     |  |

[[61 FR 27140](#), May 30, 1996, as amended at [76 FR 22598](#), Apr. 21, 2011; [85 FR 73895](#), Nov. 19, 2020]

## Appendix A to Subpart KK of Part 63 - Data Quality Objective and Lower Confidence Limit Approaches for Alternative Capture Efficiency Protocols and Test Methods

### 1. Introduction

1.1 Alternative capture efficiency (CE) protocols and test methods that satisfy the criteria of either the data quality objective (DQO) approach or the lower confidence limit (LCL) approach

are acceptable under [§ 63.827\(f\)](#). The general criteria for alternative CE protocols and test methods to qualify under either the DQO or LCL approach are described in section 2. The DQO approach and criteria specific to the DQO approach are described in section 3. The LCL approach and criteria specific to the LCL approach are described in section 4. The recommended reporting for alternative CE protocols and test methods are presented in section 5. The recommended recordkeeping for alternative CE protocols and test methods are presented in section 6.

1.2 Although the Procedures L, G.1, G.2, F.1, and F.2 in [§ 52.741](#) of part 52 were developed for TTE and BE testing, the same procedures can also be used in an alternative CE protocol. For example, a traditional liquid/gas mass balance CE protocol could employ Procedure L to measure liquid VOC input and Procedure G.1 to measure captured VOC.

## 2. General Criteria for DQO and LCL Approaches

2.1 The following general criteria must be met for an alternative capture efficiency protocol and test methods to qualify under the DQO or LCL approach.

2.2 An alternative CE protocol must consist of at least three valid test runs. Each test run must be at least 20 minutes long. No test run can be longer than 24 hours.

2.3 All test runs must be separate and independent. For example, liquid VOC input and output must be determined independently for each run. The final liquid VOC sample from one run cannot be the initial sample for another run. In addition, liquid input for an entire day cannot be apportioned among test runs based on production.

2.4 Composite liquid samples cannot be used to obtain an “average composition” for a test run. For example, separate initial and final coating samples must be taken and analyzed for each run; initial and final samples cannot be combined prior to analysis to derive an “average composition” for the test run.

2.5 All individual test runs that result in a CE of greater than 105 percent are invalid and must be discarded.

2.6 If the source can demonstrate to the regulatory agency that a test run should not be considered due to an identified testing or analysis error such as spillage of part of the sample during shipping or an upset or improper operating conditions that is not considered part of normal operation then the test result for that individual test run may be discarded. This limited exception allows sources to discard as “outliers” certain individual test runs without replacing them with a valid test run as long as the facility has at least three valid test runs to use when calculating its DQO or LCL. This exception is limited solely to test runs involving the types of errors identified above.

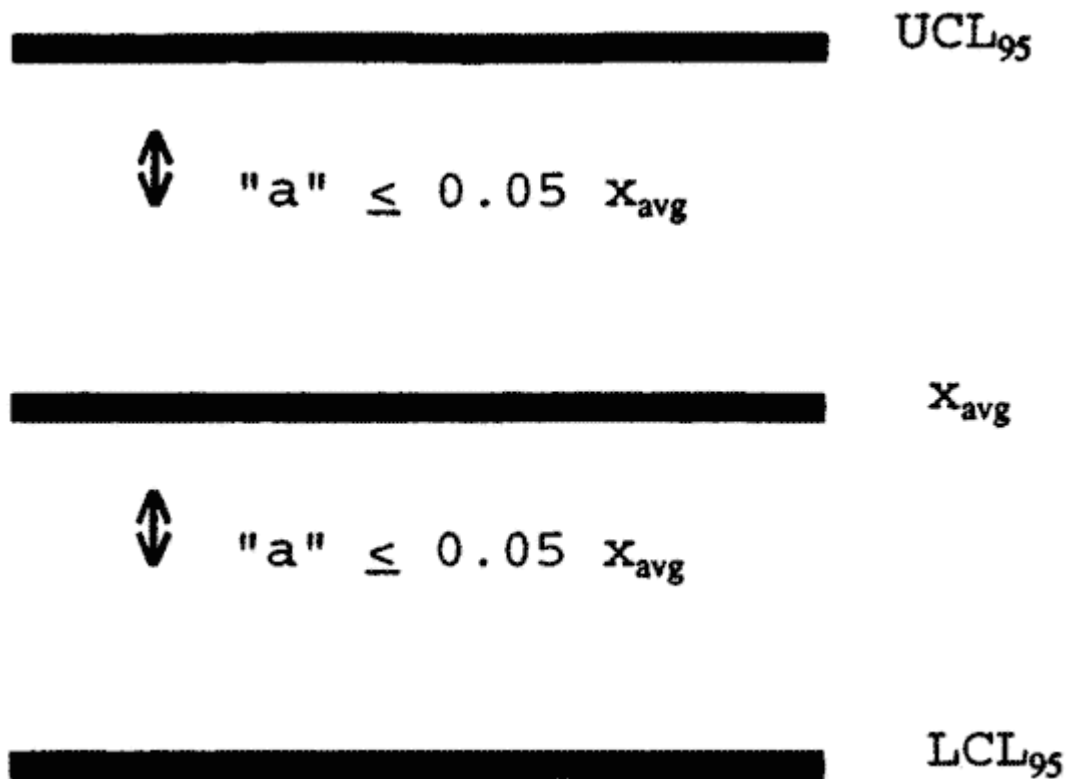
2.7 All valid test runs that are conducted must be included in the average CE determination. The individual test run CE results and average CE results cannot be truncated (i.e., 105 percent cannot be reported as 100 + percent) for purposes of meeting general or specific criteria for

either the DQO or the LCL. If the DQO is satisfied and the average CE is greater than 100, then 100 percent CE must be considered the result of the test.

2.8 Alternative test methods for measuring VOC concentration must include a three-point calibration of the gas analysis instrument in the expected concentration range.

### 3. Data Quality Objective Approach

3.1 The purpose of the DQO is to allow sources to use alternative CE protocols and test methods while ensuring reasonable precision consistent with pertinent requirements of the Clean Air Act. In addition to the general criteria described in section 2, the specific DQO criterion is that the width of the two-sided 95 percent confidence interval of the mean measured value must be less than or equal to 10 percent of the mean measured value (see Figure 1). This ensures that 95 percent of the time, when the DQO is met, the actual CE value will be  $\pm 5$  percent of the mean measured value (assuming that the test protocol is unbiased).



3.2 The DQO calculation is made as follows using Equations 1 and 2:

$$P = \left[ \frac{a}{x_{avg}} \right] 100 \quad \text{Eq. 1} \quad a = \frac{t_{0.975} S}{\sqrt{n}} \quad \text{Eq. 2}$$

Where:

a = Distance from the average measured CE value to the endpoints of the 95-percent (two-sided) confidence interval for the measured value.

n = Number of valid test runs.

P = DQO indicator statistic, distance from the average measured CE value to the endpoints of the 95-percent (two-sided) confidence interval, expressed as a percent of the average measured CE value.

s = Sample standard deviation.

$t_{0.975}$  = t-value at the 95-percent (two-sided) confidence level (see Table A-1).

$x_{avg}$  = Average measured CE value (calculated from all valid test runs).

$x_i$  = The CE value calculated from the  $i$ th test run.

Table A-1 - t-Values

| Number of valid test runs, n | $t_{0.975}$ | $t_{0.90}$ |
|------------------------------|-------------|------------|
| 1 or 2                       | N/A         | N/A        |
| 3                            | 4.303       | 1.886      |
| 4                            | 3.182       | 1.638      |
| 5                            | 2.776       | 1.533      |
| 6                            | 2.571       | 1.476      |
| 7                            | 2.447       | 1.440      |
| 8                            | 2.365       | 1.415      |
| 9                            | 2.306       | 1.397      |
| 10                           | 2.262       | 1.383      |
| 11                           | 2.228       | 1.372      |
| 12                           | 2.201       | 1.363      |
| 13                           | 2.179       | 1.356      |
| 14                           | 2.160       | 1.350      |
| 15                           | 2.145       | 1.345      |
| 16                           | 2.131       | 1.341      |
| 17                           | 2.120       | 1.337      |
| 18                           | 2.110       | 1.333      |
| 19                           | 2.101       | 1.330      |
| 20                           | 2.093       | 1.328      |
| 21                           | 2.086       | 1.325      |

3.3 The sample standard deviation and average CE value are calculated using Equations 3 and 4 as follows:

$$s = \left[ \frac{\sum_{i=1}^n (x_i - x_{avg})^2}{n-1} \right]^{0.5}$$

Eq 3

$$x_{avg} = \frac{\sum_{i=1}^n x_i}{n}$$

Eq 4

3.4 The DQO criteria are achieved when all of the general criteria in section 2 are achieved and  $P \leq 5$  percent (i.e., the specific DQO criterion is achieved). In order to meet this objective, facilities may have to conduct more than three test runs. Examples of calculating P, given a finite number of test runs, are shown below. (For purposes of this example it is assumed that all of the general criteria are met.)

3.5 Facility A conducted a CE test using a traditional liquid/gas mass balance and submitted the following results and the calculations shown in Equations 5 and 6:

| Run | CE    |
|-----|-------|
| 1   | 96.1  |
| 2   | 105.0 |
| 3   | 101.2 |

Therefore:

$$n = 3$$

$$t_{0.975} = 4.30$$

$$x_{avg} = 100.8$$

$$s = 4.51$$

$$a = \frac{(4.30)(4.51)}{\sqrt{n}} = 11.20$$

$$Eq\ 5 \quad P = \frac{11.2}{100.8} 100 = 11.11 \quad Eq\ 6$$

3.6 Since the facility did not meet the specific DQO criterion, they ran three more test runs.

| Run | CE   |
|-----|------|
| 4   | 93.2 |

| Run | CE |
|-----|----|
|-----|----|

|   |      |
|---|------|
| 5 | 96.2 |
|---|------|

|   |      |
|---|------|
| 6 | 87.6 |
|---|------|

3.7 The calculations for Runs 1-6 are made as follows using Equations 7 and 8:

$$n = 6$$

$$t_{0.975} = 2.57$$

$$x_{\text{avg}} = 96.6$$

$$s = 6.11$$

$$a = \frac{(2.57)(6.11)}{\sqrt{6}} = 6.41 \quad \text{Eq 7} \quad P = \frac{6.41}{96.6} 100 = 6.64 \quad \text{Eq 8}$$

3.8 The facility still did not meet the specific DQO criterion. They ran three more test runs with the following results:

| Run | CE |
|-----|----|
|-----|----|

|   |      |
|---|------|
| 7 | 92.9 |
|---|------|

|   |      |
|---|------|
| 8 | 98.3 |
|---|------|

|   |      |
|---|------|
| 9 | 91.0 |
|---|------|

3.9 The calculations for Runs 1-9 are made as follows using Equations 9 and 10:

$$n = 9$$

$$t_{0.975} = 2.31$$

$$x_{\text{avg}} = 95.7$$

$$s = 5.33$$

$$a = \frac{(2.31)(5.33)}{\sqrt{9}} = 4.10 \quad \text{Eq 9} \quad P = \frac{4.10}{95.7} 100 = 4.28 \quad \text{Eq 10}$$

3.10 Based on these results, the specific DQO criterion is satisfied. Since all of the general criteria were also satisfied, the average CE from the nine test runs can be used to determine compliance.

#### 4. Lower Confidence Limit Approach

4.1 The purpose of the LCL approach is to provide sources, that may be performing much better than their applicable regulatory requirement, a screening option by which they can demonstrate compliance. The approach uses less precise methods and avoids additional test runs which might otherwise be needed to meet the specific DQO criterion while still being assured of correctly demonstrating compliance. It is designed to reduce “false positive” or so called “Type II errors” which may erroneously indicate compliance where more variable test methods are employed. Because it encourages CE performance greater than that required in exchange for reduced compliance demonstration burden, the sources that successfully use the LCL approach could produce emission reductions beyond allowable emissions. Thus, it could provide additional benefits to the environment as well.

4.2 The LCL approach compares the 80 percent (two-sided) LCL for the mean measured CE value to the applicable CE regulatory requirement. In addition to the general criteria described in section 2, the specific LCL criteria are that either the LCL be greater than or equal to the applicable CE regulatory requirement or that the specific DQO criterion is met. A more detailed description of the LCL approach follows:

4.3 A source conducts an initial series of at least three runs. The owner or operator may choose to conduct additional test runs during the initial test if desired.

4.4 If all of the general criteria are met and the specific DQO criterion is met, then the average CE value is used to determine compliance.

4.5 If the data meet all of the general criteria, but do not meet the specific DQO criterion; and the average CE, using all valid test runs, is above 100 percent then the test sequence cannot be used to calculate the LCL. At this point the facility has the option of (a) conducting more test runs in hopes of meeting the DQO or of bringing the average CE for all test runs below 100 percent so the LCL can be used or (b) discarding all previous test data and retesting.

4.6 The purpose of the requirement in [Section 4.5](#) is to protect against protocols and test methods which may be inherently biased high. This is important because it is impossible to have an actual CE greater than 100 percent and the LCL approach only looks at the lower end variability of the test results. This is different from the DQO which allows average CE values up to 105 percent because the DQO sets both upper and lower limits on test variability.

4.7 If at any point during testing the results meet the DQO, the average CE can be used for demonstrating compliance with the applicable regulatory requirement. Similarly, if the average CE is below 100 percent then the LCL can be used for demonstrating compliance with the applicable regulatory requirement without regard to the DQO.

4.8 The LCL is calculated at an 80 percent (two-sided) confidence level as follows using Equation 11:



$$LC_1 = \bar{x}_{avg} - \frac{t_{0.90} s}{\sqrt{n}} \quad \text{Eq. 11}$$

Where:

$LC_1$  = LCL at an 80-percent (two-sided) confidence level.

$n$  = Number of valid test runs.

$s$  = Sample standard deviation.

$t_{0.90}$  = t-value at the 80-percent (two-sided) confidence level (see Table A-1).

$\bar{x}_{avg}$  = Average measured CE value (calculated from all valid test runs).

4.9 The resulting  $LC_1$  is compared to the applicable CE regulatory requirement. If  $LC_1$  exceeds (i.e., is higher than) the applicable regulatory requirement, then a facility is in initial compliance. However, if the  $LC_1$  is below the CE requirement, then the facility must conduct additional test runs. After this point the test results will be evaluated not only looking at the LCL, but also the DQO of  $\pm 5$  percent of the mean at a 95 percent confidence level. If the test results with the additional test runs meet the DQO before the LCL exceeds the applicable CE regulatory requirement, then the average CE value will be compared to the applicable CE regulatory requirement for determination of compliance.

4.10 If there is no specific CE requirement in the applicable regulation, then the applicable CE regulatory requirement is determined based on the applicable regulation and an acceptable destruction efficiency test. If the applicable regulation requires daily compliance and the latest CE compliance demonstration was made using the LCL approach, then the calculated  $LC_1$  will be the highest CE value which a facility is allowed to claim until another CE demonstration test is conducted. This last requirement is necessary to assure both sufficiently reliable test results in all circumstances and the potential environmental benefits referenced above.

4.11 An example of calculating the LCL is shown below. Facility B's applicable regulatory requirement is 85 percent CE. Facility B conducted a CE test using a traditional liquid/gas mass balance and submitted the following results and the calculation shown in Equation 12:

| Run | CE   |
|-----|------|
| 1   | 94.2 |
| 2   | 97.6 |
| 3   | 90.5 |

Therefore:

$n = 3$

$$t_{0.90} = 1.886$$

$$x_{\text{avg}} = 94.1$$

$$s = 3.55$$

$$LC_1 = 94.1 - \frac{(1.886)(3.55)}{\sqrt{3}} = 90.23 \quad \text{Eq 12}$$

4.12 Since the  $LC_1$  of 90.23 percent is above the applicable regulatory requirement of 85 percent then the facility is in compliance. The facility must continue to accept the  $LC_1$  of 90.23 percent as its CE value until a new series of valid tests is conducted. (The data generated by Facility B do not meet the specific DQO criterion.)

## 5. Recommended Reporting for Alternative CE Protocols

5.1 If a facility chooses to use alternative CE protocols and test methods that satisfy either the DQO or LCL and the additional criteria in section 4., the following information should be submitted with each test report to the appropriate regulatory agency:

1. A copy of all alternative test methods, including any changes to the EPA reference methods, QA/QC procedures and calibration procedures.
2. A table with information on each liquid sample, including the sample identification, where and when the sample was taken, and the VOC content of the sample;
3. The coating usage for each test run (for protocols in which the liquid VOC input is to be determined);
4. The quantity of captured VOC measured for each test run;
5. The CE calculations and results for each test run;
6. The DQO or LCL calculations and results; and
7. The QA/QC results, including information on calibrations (e.g., how often the instruments were calibrated, the calibration results, and information on calibration gases, if applicable).

## 6. Recommended Recordkeeping for Alternative CE Protocols.

6.1 A record should be kept at the facility of all raw data recorded during the test in a suitable form for submittal to the appropriate regulatory authority upon request.

[[61 FR 27140](#), May 30, 1996, as amended at [71 FR 29804](#), May 24, 2006]